

The Implication of Employee Stock Options and Holding Gains for Disposable Income and Household Saving Rates in Finland

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This article discusses the effect of holding gains and employee stock options (ESO) on the measured household saving ratio and on disposable income. The income concept of the SNA 93 does not include realized holding gains, but taxes paid on such gains are nevertheless deducted from income. In contrast to many other OECD countries, Finland records ESO in the changes in assets following the same accounting convention as for holding gains.

The article presents three income concepts and it analyses in the case of each the effect of holding gains, ESO and their taxes on disposable income and the saving rate. The first income concept is that of the Finnish national accounts. The second includes holding gains and ESO, as well as their taxes, as expenditure, whereas the third income concept excludes holding gains, ESO and their taxes.

Key words: National accounts; SNA93; capital gains; sector accounts; household sector; other changes in assets.

1. Introduction

The discussion on the effect of holding gains on the saving ratio started in the U.S. at the end of the 1990s prompted by a rapid decline in the U.S. saving rate. In the 1980s personal saving exceeded 10 percent of disposable income; in 2000, on the other hand, it was only 1 percent of disposable income. The reason behind this phenomenon was that the taxation of stock market holding gains was depressing the measured rate of personal saving. Moreover, the conventional wealth effect was forcing down the saving rate, according to which holding gains lead households to consume more. Since stock market holding gains do not appear in SNA93 income, the net effect from stock market wealth is a reduction in SNA93 saving (the difference between income after tax and consumption). (See Lusardi, Skinner, and Venti 2001, pp. 1–4; Reindorf and Yan 2002, p. 2; de Serres and Pelgrin 2002.)

The U.S. discussion has alerted economists to similar phenomena in other countries, one of which is Finland. From 1975 to 2000, the average household sector saving rate in Finland was 3.3 percent, but in the year 2000 it was down to –1.4 percent.

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The motivation for looking at this phenomenon goes beyond its effect on saving rates. The international community of statisticians is interested in the comparability of income concepts. Often international comparisons are concentrated only on institutional differences or the other aspects of alternative saving measures such as treatment of pensions or durable consumer goods. This article provides an empirical example of how a single financial wealth phenomenon in one country may affect real economic indicators. (See for instance ECB and OECD 2004; Moulton 2001; Reindorf and Yan 2002.)

This article studies the effect of realized holdings gains and employee stock options (ESO) on the measured disposable income and the household saving rate. Almost all of the OECD countries have allocated ESO to compensation of employees. However, for the time being, these are allocated in Finland to the changes in assets, and are shown as a memorandum item in the national accounts. The reason for this is that ESO have an extremely large effect on household savings as well as on the operating surplus of nonfinancial corporations (see Hamunen and Weckström 2000).

The article identifies three concepts of disposable income. The first concept is the Finnish national accounts' disposable income, which does not include ESO and holding gains but does include their taxes. The second concept counts ESO and holding gains as income, and their taxes as expenditure. In this sense, the second concept of disposable income resembles the concept of disposable income in Finnish Income Distribution Statistics (IDS). (See Kavonius and Törmälehto 2003, pp.9–27.) The third concept of disposable income, by contrast, does not include ESO, holding gains, or their taxes.

The article is organised as follows. The three income concepts, their compilation method and their theoretical correspondence to the SNA93 are examined individually in Section 2. Section 3 examines the effect of these different concepts on the saving ratio and on disposable income. Section 4 summarizes the findings.

2. Sources and Methods

2.1. First Income Concept

The first disposable income concept does not include ESO and holding gains, but does include their taxes. This is the one adopted in the Finnish national accounts.

Finland follows the SNA93; however, the SNA does not provide clear guidance concerning how to treat ESO in national accounts, as the phenomenon of ESO is quite recent.

In many other countries, income from ESO has been assumed to represent compensation of an employee. In Finland, the ESO have been expounded to holding gains in national accounts. However, the ESO are not a cost element in company book-keeping in Finland. Because option benefits do not constitute a cost for the employer (except for the social contributions payable to the Social Insurance Institution, SII), qualifying them as wages and salaries would distort the operating surpluses of corporations and the national economy. However, income from ESO extensively affects basic economic indicators, such as household disposable income and the household saving rate. (See Hamunen and Weckström 2000; Moylan 2000; Postner 2000.)

2.2. Second Income Concept

This section explains the second disposable income concept and then discusses its relation to the SNA93, providing detailed examination of the practical application of this income concept and its relation to the other statistical concepts.

This concept counts income from ESO and holding gains as income, and their taxes as expenditure. The data on holding gains are based on annually published taxation levy statistics. In this article, holding gains are measured using taxation data. For the time being, this is the only available source in Finland.

The SNA93 defines holding gains (or capital gains) as including not only gains on “capital” such as fixed assets, land and financial assets, but also gains on inventories of all kinds of goods held by producers, including work in progress, often described as “stock appreciation.”

Moreover, the SNA93 defines that a realized gain is usually understood as the gain realized over the entire period over which the asset is owned or the liability outstanding, whether or not this period coincides with the accounting period. However, as holding gains are recorded on an accruals basis in the SNA93, the distinction between realized and unrealized gains, although useful for some purposes, is not so important in the system and does not appear in the classifications and accounts. (See SNA93, Paragraph 12.72.)

The Finnish Tax Administration concept has certain problems in terms of the application of the SNA93. In taxation, the concept of holding gains comprises the so-called “initial outlay assumption,” whereby a minimum of 20 percent of the assignment price has to be deducted as initial cost. If a vendor has had a property for more than 10 years, the minimum is 50 percent of the assignment price. This regulation was imposed in 1999. Previously, a minimum of 30 percent of an assignment price had to be deducted, and if the property had been acquired before 1989, then the initial outlay assumption proportion was 50 percent. The vendor can choose whether he/she wants to reduce the real initial price, or this initial outlay assumption. Because this initial outlay assumption exists, it is possible that a vendor’s holding gains are lower in taxation than they are de facto. Thus all the holding gains are not necessarily covered by the concept (see *The Handbook of Personal Taxation* 2001, Paragraphs 6:14d–6:15).

If a vendor and/or his/her family live in a dwelling more than two years they are excluded from the concept of holding gains. Holding gains on dwelling are taxed by the Finnish Tax Authority up to two years. In such cases the vendor is judged to own the dwelling for speculative purposes. Finnish Tax Authority taxes such holding gains on dwellings, in which case the vendor owns a dwelling for speculative purposes. Basically, it does not matter whether the vendor receives holding gains by selling his/her apartment, when he/she will later anyway have to spend holding gains on a new apartment. In other words, the vendor benefits from house price inflation by selling the old apartment, but uses up this benefit investing in a new dwelling. Thus, some part of the holding gains in the sense of the SNA93 is also not included in this analysis. (*The Handbook of Personal Taxation* 2001, Paragraphs 6:26–6:27.)

The concept of taxation is basically a rather useful proxy for speculative realized holding gains. However, it does not entirely follow the current SNA93 concept of holding gains, which does not distinguish between realized and nonrealized holding gains. As long

as an asset has not been sold, these holding gains are only potential – hence the description “unrealized holding gains (or losses).” The day a household actually makes a capital gain by selling an asset, it is said to be “realized.” Thus, the time of recording does not also implicitly follow the accrual basis recommended by the SNA93. The time of recording of the used concept is the actual time of the realisation. (Audenis, Gregoir, and Louvot 2002, pp. 13–14.)

Holding gains have an effect on the economic behaviour of households and may affect their decisions on consumption. IDS manuals recommend that holding gains should be treated as a memorandum item which may, optionally, be added to income measures for certain analysis. Usually micro-statistics include only realized holding gains and ignore unrealized ones. This is also the case for the IDS. The concept, which is used in the IDS, is exactly the one which is used in this analysis. (See *Expert Group on Household Income Statistics* 2001, pp. 17 and 66–67; Kavonius and Törmälehto 2003, pp. 9–27.)

Before 1998, ESO were a fairly marginal phenomenon in Finland, with little effect on economic indicators. Since 2000, data concerning ESO have been published in annual taxation levy statistics. Before 2000, there was no direct source of information on them, and their amounts were difficult to estimate. According to an inquiry conducted by Business Statistics, ESO totalled EUR 168 million in 1998 and EUR 874 million in 1999. Comparing these figures to other estimations based on taxation data shows that they can be considered reliable. According to taxation levy statistics, ESO amounted to EUR 997 million in 2000 and EUR 528 million in 2001. These are also the published national accounts estimates. Table 1 shows the amounts of ESO and holding gains for the years 1993–2003 used in this article.

2.3. *Third Income Concept*

The third disposable income concept excludes ESO, holding gains, and their taxes. This section explains how the third concept has been estimated and, thus, which assumptions have been used in estimating taxes of the holding gains and ESO.

The taxation of holding gains has changed several times between 1987 and today. From 1987 to 1993, holding gains from financial assets were also exempt from taxation if their holding period exceeded five years. Large holding gains were partially taxable even after that, but tax could be avoided by realising the gains over several years. Following the method used by Tarmo Valkonen, we shall also assume in this article that the tax rate was zero before the reform. (See Valkonen 1999, pp. 44–45.)

The Finnish tax system underwent a major reform during 1987–1993. Among the main elements of the reform were a separation of taxation on earned income from that on capital income, and a major revision of corporate income tax. The separation of taxation on different kinds of income is not yet finalized. Housing loan interest expenditure is deductible for income taxation, but if there is not enough taxable capital income, expenses can also be deducted from earned income taxation (with an upper limit). Another exemption is that income together with wealth is taken into account when certain means-tested transfers and payments for public services are determined. (See Valkonen 1999, pp. 46–48).

Table 1. Holding gains and ESO and their assumed taxes and social contributions used in the calculations (EUR million). Source: Author's estimations, Finnish Tax Administration 2004 and Statistics Finland 2005

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Holding gains	603	728	689	709	1,297	1,804	2,872	4,041	1,938	1,664	1,918
Assumed taxes	151	182	172	198	363	505	804	1,172	562	483	556
Options						168	874	997	528	492	166
Assumed taxes						97	507	578	306	285	96
Social contributions						3	13	15	8	7	2

After this reform, the tax rate on holding gains stayed at 25 percent from 1993 to 1995. In 1996, the rate rose to 28 percent and further in 2000 to 29 percent. From 1998 to 2003, ESO were taxed by progressive income taxation. It is safe to assume that the highest income classes received most of the ESO. During the same period, the highest marginal tax rate was 60 percent. This article assumes that the average tax paid on ESO was 58 percent. Option benefits do not constitute a cost for the employer except for the social contributions payable to the SII, which averaged 1.5 percent. Table 1 shows the amounts of taxes and social contributions on holding gains and ESO as assumed in this article.

The above reform creates a major problem for the comparability time series, as the concept of holding gain up to and including 1993 is not comparable to that of holding gain after 1993. This is also why Tables 1, 2, and 3 only cover the years 1993 to 2003. Moreover, the economic effects of holding gains and ESO were much more extensive after 1993 than before it. Nevertheless, the 1980–1993 time series gives a rough picture of the development trend of holding gains. (Finnish Working Group on the Implication of Tax Reform 1992:21, pp. 8–13.)

3. The Effect of Holding Gains and ESO

As can be seen from Figure 1, before 1997 holding gains and ESO did not have a substantial effect on real disposable income. After 1997, the difference in the concepts used is so obvious that it is reasonable to assume that income from the financial markets then affected real disposable income for the first time. Assuming that the new concept of holding gains is about four times as exhaustive as the old one, as the Ministry of Finance estimate indicates, then holding gains in 1990 amounted to EUR 1,008 to EUR 1,175 million. In 2000, holding gains and income from ESO amounted to roughly EUR 5,040 million and in 2003 still EUR 2,084 million. The indicator for 1990 is of course rough, but allows us to form an approximate picture of the situation.

The disposable income that includes holding gains and income from ESO was 7.8 percent higher in 2000 than the disposable income of the national accounts. Approximately 20 percent of this difference comes from ESO, and the rest from holding gains. The disposable income that does not include holding gains, ESO or their taxes was 2.9 percent higher than in 2000. One-third of this difference is accounted for by ESO, the rest by holding gains. In 2000 the effect was most significant, but still in 2003 it is visible even though there was not a boom in the financial markets.

It should be noted that if the holding gains and ESO are large in the chosen base year then it reflects on the whole time series. If holding gains were significant in the chosen base year, then the influence of holding gains would not appear so extreme as it is now in the alternative measures presented in this article. Therefore, the chosen base year is 1995 and not 2000 as in the original Finnish national accounts series.

Table 2 shows that in 1999 and 2000, the contribution of holding gains to the volume growth of disposable income was almost two percent, and even that of their taxes more than 0.5 per cent. In 1995, the contribution of holding gains to the growth rate would have been slightly negative, because holding gains fell from EUR 728 million to EUR 689 million. A similar, but larger, negative growth rate effect is evident in 2001 and 2002. The contribution of ESO to the volume growth of disposable income would have been most

Table 2. Contributions of holding gains and ESO and their assumed taxes, and social contributions to the volume growth of disposable income. Source: Author's estimations, Finnish Tax Administration 2004 and Statistics Finland 2005

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Disposable income 2 (the concept of national accounts + options + holding gains)										
Effect of options	0.00	0.00	0.00	0.00	0.30	1.22	0.19	-0.69	-0.05	-0.47
Effect of holding gains	0.26	-0.08	0.04	1.18	0.94	1.87	1.89	-3.21	-0.41	0.36
Disposable income 3 (the concept of national accounts - the taxes of holding gains and options)										
Effect of options	0.00	0.00	0.00	0.00	0.18	0.75	0.12	-0.43	-0.03	-0.28
Effect of holding gains	0.07	-0.02	0.05	0.33	0.26	0.53	0.60	-0.95	-0.12	0.11

Table 3. Contributions of holding gains and ESO and their assumed taxes and social contributions to household sector saving rates (%). Sources: Author's estimations, Finnish Tax Administration 2004 and Statistics Finland 2005

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Personal saving rate 2 cp (the concept of national accounts + options + holding gains)											
Effect of options	0.0	0.0	0.0	0.0	0.0	0.3	1.5	1.7	0.8	0.8	0.2
Effect of holding gains	0.2	1.2	0.8	1.2	2.1	3.0	4.4	6.4	3.0	2.6	2.8
Personal saving rate 3 cp (the concept of national accounts – the taxes of holding gains and options)											
Effect of options	0.0	0.0	0.0	0.0	0.0	0.2	0.9	1.0	0.5	0.5	0.1
Effect of holding gains	0.3	0.4	0.3	0.4	0.7	0.9	1.4	1.9	0.9	0.7	0.8

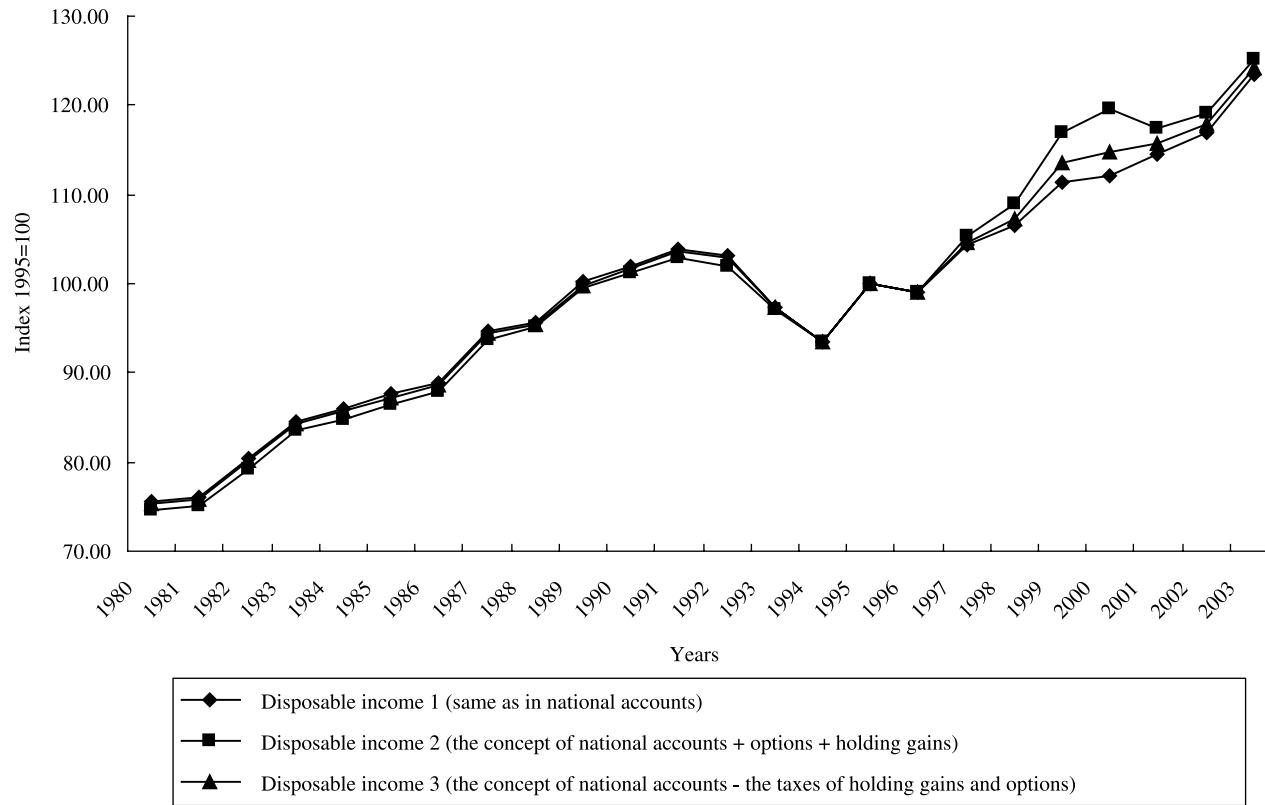


Fig. 1. Volume indices of the three different disposable income concepts. Source: Author's estimations, Finnish Tax Administration 2004 and Statistics Finland 2005

extensive in 1999, when ESO shot up from EUR 168 million to EUR 874 million. ESO would therefore have contained 1.2 percent and ESO taxes 0.8 percent. It is important to note that in that year the combined effect (i.e., the effect of ESO and holding gains) on growth would have been three percent and even that of their taxes 1.3 percent.

Holding gains and ESO have a much more notable influence on saving and on the saving rate than on disposable income. This is entirely logical since ESO and holding gains are received by the highest income groups. On the one hand, the propensity to consume is much smaller in high-income groups than in low-income ones. On the other hand, saving is a residual of disposable income and individual consumption expenditure. Therefore, it is quite obvious that even a small increase in income has an influence on the household sector saving rate.

As Figure 2 shows, before 1997 the trends in the saving rates were rather similar. During the recession, income from the financial markets was naturally quite insignificant, and the saving rate before 1993 is not fully comparable with that of today. Holding gains and other income from the financial markets have increased considerably in the last few years. The Finnish economy experienced a deep recession in the early 1990s, making it impossible to realize significant holding gains from stock markets. Until the end of the 1980s, the financial, capital and stock markets were somewhat regulated in Finland, and investing in stocks was therefore not as common as it is today. The deregulation of the financial, capital and stock markets can be seen in Figure 2. In 1988, the household sector saving rate was -1.0 percent, while the household sector saving rate inclusive of holding gains was approximately zero percent. Had the taxation concept of holding gains been the same as it is today, the difference would have been much more significant than that shown in the figure, although less significant than today.

In 2000, the household sector saving rate was -1.4 percent according to Finnish national accounts. The saving rate of disposable income inclusive of holding gains was 6.4 percent. The effect of ESO was 1.7 percent, and that of holding gains 6.4 percent. The saving rate of disposable income exclusive of holding gains and ESO or their taxes was 1.5 percent. The influence of holding gains was 1.9 percent and that of ESO one percent. The different effects of holding gains and ESO are shown in Table 3.

4. Conclusions

In this article we have discussed the household sector saving rate and the way it is used to describe actual saving. The article has introduced three different concepts of disposable income. The first concept is the Finnish national accounts disposable income, which does not include income from ESO and holding gains but includes their taxes. The second concept counts ESO income and holding gains as income, but treats their taxes as expenditure. The third concept of disposable income does not include ESO, holding gains, or their taxes.

The concept of holding gains used does not follow the one in the SNA93. The SNA93 treats holding gains as changes in assets and does not distinguish between realized and nonrealized holding gains. However, assuming the realized holding gains have an effect on households' economic behaviour and therefore, for instance in the microanalysis, unrealized holding gains are often ignored. Thus, it can be concluded that the concept used

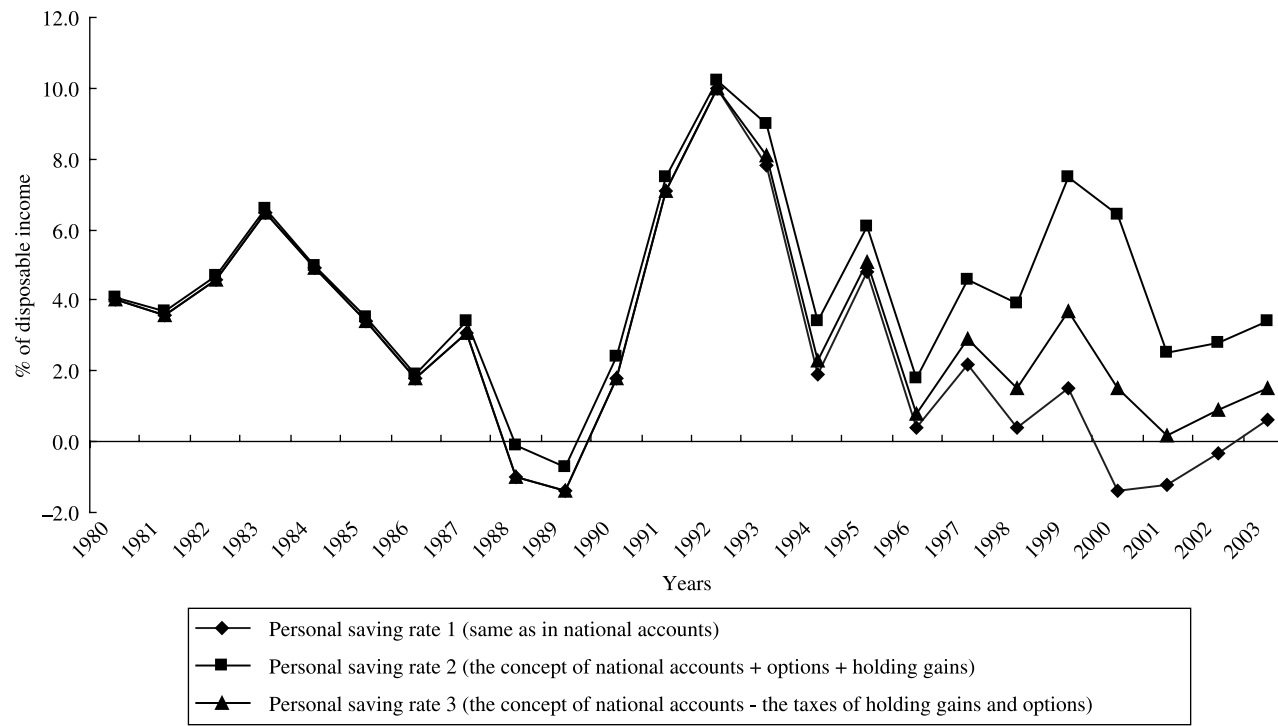


Fig. 2. Household sector saving rates of the three different concepts of disposable income. Source: Author's estimations, Finnish Tax Administration 2004 and Statistics Finland 2005

is a very good proxy of households' real behaviour. The Finnish IDS uses the same holding gains concept as the one put forward in this article.

The article has observed that income from the financial markets has increasingly influenced the saving rate in recent years. The most important effect comes from the way ESO and holding gains are treated in national accounts. These incomes have become increasingly important in recent years.

What do the different saving rates describe? The saving rate of the Finnish national accounts describes the transactions and incomes of the real economy, as it should. The saving rate exclusive of ESO or their taxes perhaps most closely describes the behaviour of a normal Finnish family, most of whom do not make their living on the stock markets. The third concept, which includes ESO and holdings gains as well as their taxes, describes the behaviour of the whole economy as well as the behaviour of all Finnish households. Here we end up facing the twofold basic question: how do the different indicators describe the essential nature of the economy, and what do we want to describe?

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