



RIKSREVISIONEN  
*The Swedish National Audit Office*

RiR 2009:20 Summary

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The earned income tax credit

## Summary

An increased labour supply, higher employment and a larger number of hours worked are vital, in the Government's opinion, both in promoting economic growth and in meeting future demographic challenges. There are two ways to increase the labour supply: either by increasing the labour market participation or by increasing the number of hours worked among those already employed. The Swedish population in the age between 15 and 74 was about 6.9 million in 2008. Of them, 1.9 million (28 per cent) were outside the labour force.

To increase the labour supply, the Swedish Government has introduced a tax credit for earned income: the earned income tax credit<sup>1</sup>. The first step of the earned income tax credit was implemented on 1 January 2007 and entailed a general tax reduction for all gainfully employed people. It was reinforced by a second step on 1 January 2008, and a further reinforcement was introduced on 1 January 2009. On 1 January 2010, the earned income tax credit was reinforced once more.

The total amount of budget funds required to finance the earned income tax credit is estimated at almost SEK 70 billion. The Government expects the reform to generate a long-term increase in employment of about 80,000 people. According to the Government's estimates, the reform will partly be self-financed. The cost-coverage ratio for the first three steps of the reform is estimated at 40–50 per cent. For the fourth step, the Government expects a ratio of about 30 per cent.

The aim of the audit by *Riksrevisionen* (the Swedish National Audit Office, SNAO) was to examine whether the earned income tax credit is likely to be an effective reform when it comes to increasing the labour supply. A further aim of the audit was to scrutinise the documentation on which the Government bases its estimates of the expected impact on the labour supply of the earned income tax credit reform.

The audit provided answers to the following audit questions:

- Is the Government's earned income tax credit likely to be an effective reform when it comes to increasing the labour supply in general, and for groups with a weak position in the labour market in particular?
- Is the Government's documentation of the estimates relating to the earned income tax credit transparent and of good quality?

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<sup>1</sup> The Swedish name of the earned income tax credit is *jobbskatteavdraget*.

## **The quality of the documentation underpinning the Government's estimates has improved**

The SNAO has examined the transparency of the documentation on which the Government bases its estimates relating to the earned income tax credit. It has also assessed the quality of that documentation.

The SNAO finds that the transparency and quality of the Government's presentation of estimates has improved. The SNAO considers it a positive development that the Government has started making its own microsimulations of the expected effects of the earned income tax credit instead of using methods that involve applying previous research findings to an average individual or a typical household. The report published in the spring of 2009, which describes the expected impact on the labour supply of the reforms carried out in the income tax field until then, contains detailed information about the calculations and the assumptions made.

In the Government's analysis of the earned income tax credit, however, a simplified assumption is made by treating the first three reform steps as an integrated reform implemented in 2007. Because of this, it is not possible to distinguish the expected impact of each of those steps on the labour supply. The SNAO considers that it would be preferable if the expected impacts of the individual steps of the earned income tax credit were treated and presented separately. Such presentation has been provided for the fourth step in the Government Bill. It is also worth noting that the impact of raising the ceiling for the imposition of state income tax is not separated from the impact of the earned income tax credit. This implies that the Government's presentation does not enable an integrated assessment of the total effect that the earned income tax credit is expected to have on the labour supply.

Even so, the SNAO finds that the Government's presentation of reform effects in its new report on changes in the income tax field can be deemed to fulfil the requirements for clear and transparent reporting specified by the OECD and the IMF.

Nevertheless, certain shortcomings remain as regards the Government Bills that form the basis of the Riksdag's decisions. Those Bills still do not include comparisons with the Government's own previous estimates. Hence no explanations are given for changes in the estimates of expected impact presented in the different Bills. Furthermore, in the Budget Bills, which is where the earned income tax credit was first announced, the concepts of 'employed people', 'becoming employed' and 'man-years' are used in an unclear manner. This makes it difficult to interpret the impacts of the reform. Clear definitions of these concepts would further facilitate the reading of the Bills.

## **The earned income tax credit has the potential to increase the labour supply**

To form an idea of the long-term effects that the earned income tax credit can be expected to exert on the labour supply, the Government has been using a microsimulation model since 2009.

The SNAO has performed its own microsimulations to assess the reliability of the Government's estimates and to study expected effects on certain groups with a weak position in the labour market. However, the SNAO has not scrutinised the statistical models used for the simulations. The results of the SNAO's calculations are in line with those presented by the Government. The microsimulations show that, in the long term, the reform can be expected to have a positive effect on the labour supply. According to the SNAO's simulations, the number of hours worked can be expected to increase by about 2.6 per cent as a result of the four steps of the reform. It is worth noting that the positive impact is expected to arise mainly because more people will choose to join the labour force. About 88,000 people are expected to go from being completely outside the labour force to working at least part-time. The expected effect on the number of hours worked by those already working is relatively small and in some cases negative. The SNAO's estimates further show that the expected impacts are greater for young people, the elderly and those born abroad than for the general population.

However, some caution is called for in the interpretation of the results of the microsimulations – both those of the SNAO and those of the Government. The SNAO's analysis shows that the expected effects of the reform vary depending on the data set chosen. What is more, other studies using similar estimation methods have pointed to smaller reform impacts than those presented by the SNAO and the Ministry of Finance. Taken together, however, the reform simulations show a positive expected impact on the labour supply.

When the various steps of the earned income tax credit are put in relation to the budget funding for each of them, the SNAO's estimates give certain indications that their expected relative impact differs. It can be noted that the fourth step has a slightly larger budgetary cost for each hour of work that is created. However, the same estimates also show that the cost per hour of work created is lower for the third step than for the first two steps, which may argue against the hypothesis of diminishing returns from the reform. These differences may seem small in absolute numbers but are large in relative terms. The difference in impact per *krona* spent between the third and fourth steps of the reform, for example, is about 16 per cent. Another indication that the impact of the reform may be diminishing in nature comes from the cost-coverage ratio. The Government estimates that this ratio is lower for the fourth step of the earned income tax credit than for the three previous steps. This could be interpreted to mean that the impact of the reform is slightly diminishing for the fourth step, even though it is important to point out that both of these estimates are very uncertain.

Taken together, both the SNAO's and the Government's simulations show that the earned income tax credit has the potential to be effective in the sense that it may attain its objective of increasing the labour supply in the long run. The reform also has the potential to be particularly effective when it comes to increasing the labour supply of groups with a weak position in the labour market.

## **The general public is poorly informed about the earned income tax credit**

The aim of the earned income tax credit is to increase incentives to work. For this reform to have the desired impact, it is therefore important that the individuals who are expected to change their behaviour actually understand how the reform is intended to work. If the general public do not understand how the earned income tax credit changes disposable income if the labour supply changes, it is not reasonable to expect the reform to have its full impact. Recent research in this field has shown that the provision of information in conjunction with the implementation of various types of reforms may play an important part in influencing people's behaviour. This research also shows that better information is a relatively cheap way to influence people's behaviour. This is why the SNAO has investigated the general public's knowledge about the earned income tax credit.

The questions that the SNAO has added to Statistics Sweden's monthly labour force survey show that the general public has limited knowledge of the earned income tax credit. About 40 per cent say they are familiar with the earned income tax credit. Among the unemployed, those outside the labour force and those born abroad, about 30 per cent are familiar with the earned income tax credit. Knowledge is thus lowest in the groups where the simulations indicate the largest expected impact and hence the greatest expected behavioural change from the earned income tax credit.

A questionnaire survey carried out by the SNAO also shows that the general public's knowledge of the earned income tax credit is low. Only half of the respondents are familiar with the earned income tax credit. Knowledge is particularly low among those with a weak position in the labour market. Less than one in five people aged 20–24 are familiar with the earned income tax credit. Knowledge is also below average among those born abroad: only about 40 per cent are familiar with the earned income tax credit. The survey also indicates that 15 per cent of those who do not work and are not familiar with the earned income tax credit would be more likely to work if they were familiar with it. This indication supports the hypothesis that information could play a part in the impact of the reform.

## **The earned income tax credit may fail to achieve its expected impact**

Both the SNAO's and the Government's microsimulations of the earned income tax credit's impact on the labour supply rest on the assumption that the general public are fully informed. 'Fully informed' in this context means that all individuals understand how the reform will affect disposable income if the labour supply changes. This assumption may not be valid since the SNAO's surveys show that the general public have a low level of knowledge about the earned income tax credit. The SNAO therefore finds that there is a risk that the reform may not achieve the full potential indicated by the microsimulations.

The SNAO considers that measures to inform the general public would be necessary to ensure that the reform will have the greatest possible impact. The main target groups of such measures should be those where knowledge

about the reform is lowest and where the potential for behavioural changes are greatest according to the microsimulations. The SNAO would consider it positive if such intensified information provision included the production of more easily accessible information about how the earned income tax credit will affect people's disposable income depending on the amount of labour they choose to supply.

## **Recommendations**

The SNAO recommends the Government to:

- instruct the Swedish Tax Agency to inform the general public about the earned income tax credit;
- develop its presentation and clarify its definitions of concepts used in the description of the impacts of the reform.