

Evaluating the Impact of Fiscal Policy on the Household Sector in Trinidad and Tobago in a Static CGE Framework

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**Presented at:
46th Annual Conference of Monetary Studies
Port of Spain, Trinidad
18-20 November, 2014**

Outline

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Motivation

This paper is part of a wider study aimed at developing a general equilibrium framework which could guide planners in understanding the likely impact of macroeconomic policy decisions.

The framework takes into consideration the interconnected nature of the markets for factors, and output and is therefore able to capture the income flows involved in processes of production, consumption and accumulation.

Research Questions

How do changes in fiscal policy affect the distribution of income among households groups in Trinidad and Tobago?

How do changes in fiscal policy affect household expenditure in Trinidad and Tobago?

How do results obtained above differ with changes in the capital mobility assumption?

Data & Methodology

Social Accounting Matrix (SAM) for Trinidad and Tobago (2000)

Account	Amount
Activities	52
Commodities	52
Factors	4
Households	14
Enterprise	1
Government	4
Rest of the World	1
Accumulation	2

Data & Methodology

**Static CGE Model - Modified PEP-1-1 Version 2
Decaluwé et al (2012)**

**Calibration and Simulations - General Algebraic
Modeling System (GAMS) with the PATHNLP solver**

Simulations

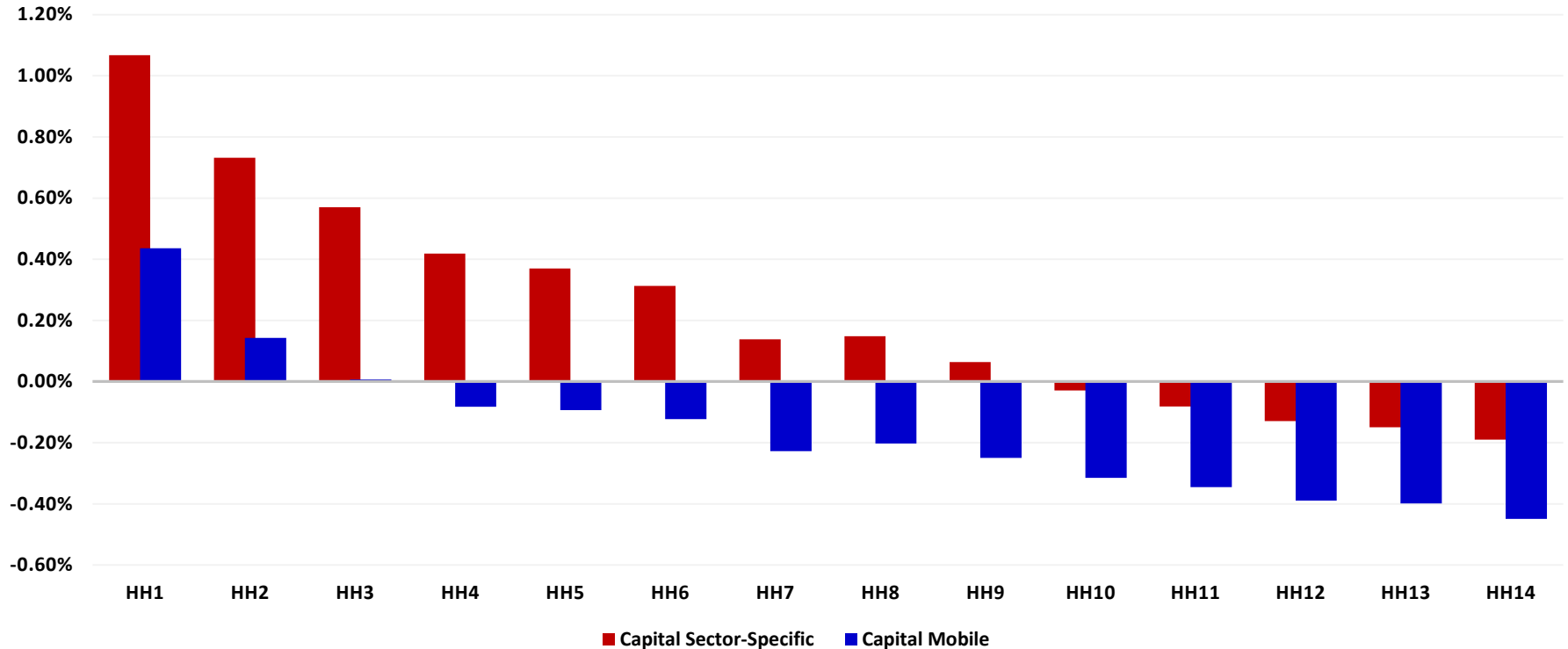
- **20% increase in average indirect tax rate**
- **50% reduction in average indirect tax rate**
- **20% increase in government spending.**
- **20% reduction in average rate of taxes and duties on imports.**

Simulations

- **20% increase in taxes and duties on imports of alcohol and tobacco products**
- **30% increase in the tax on oil and gas commodities**
- **20% reduction in the production tax on other manufacturing**
- **20% increase in the marginal direct tax on firms**

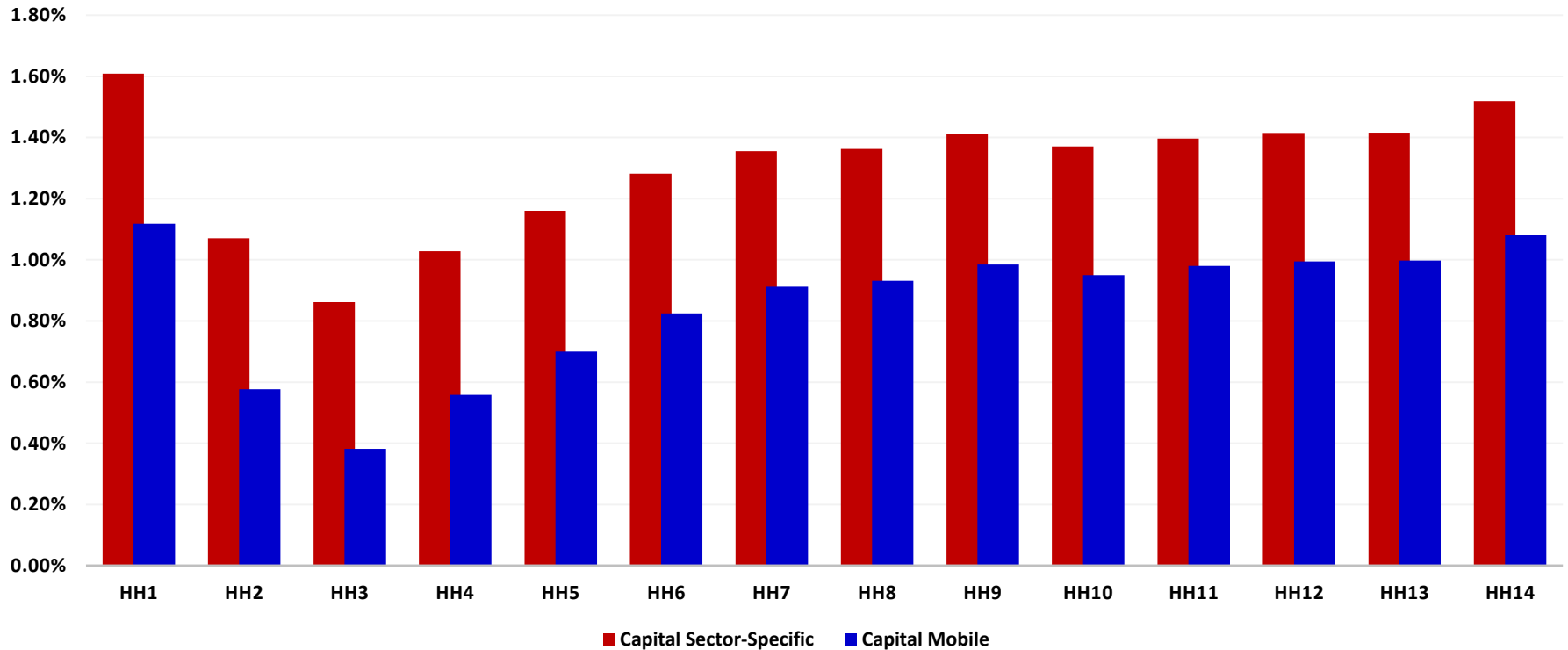
Results

Change in Household Income Resulting from a 20% Increase in Indirect Taxes



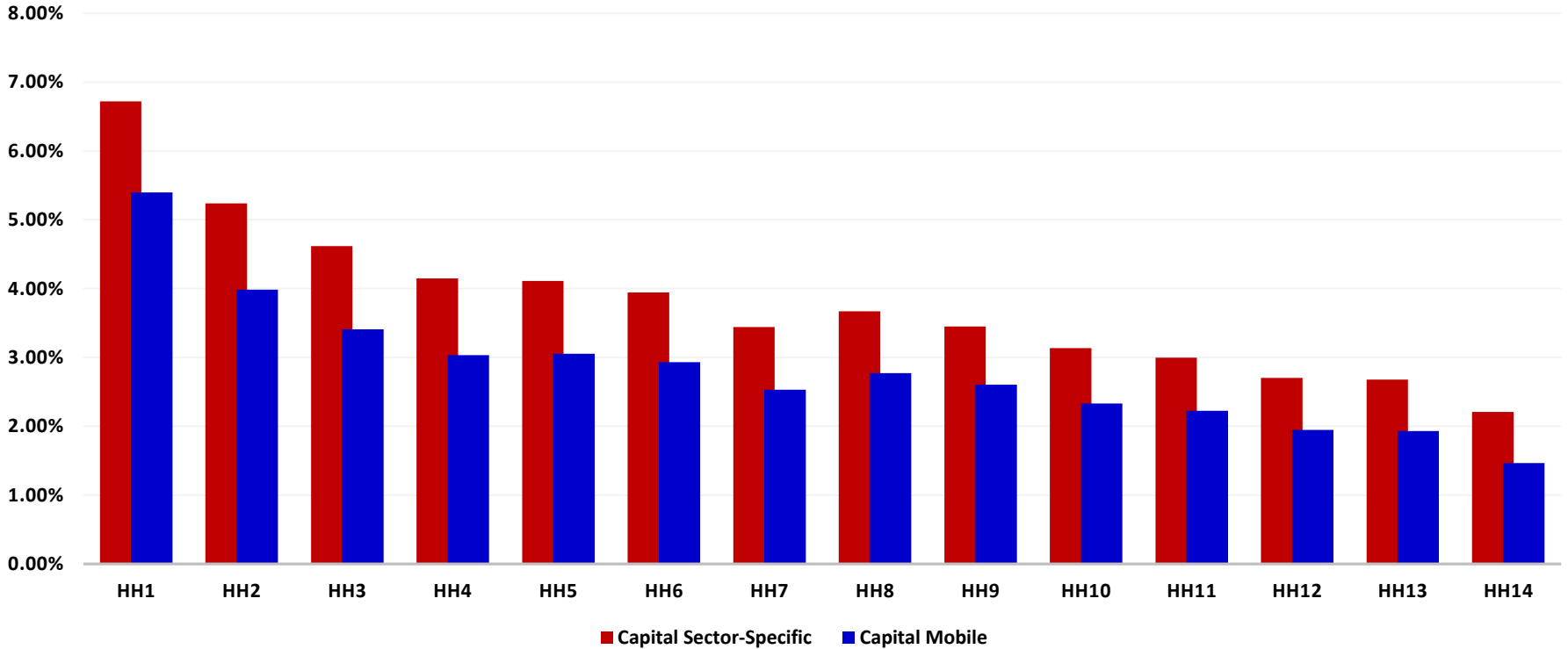
- **SSCA** - incomes fell for upper income groups but rose for lower income groups
- **MCA** – opposite is true
- Magnitude of changes were greater under the **SSCA**

Change in Household Income Resulting from a 50% Decrease in Indirect Taxes



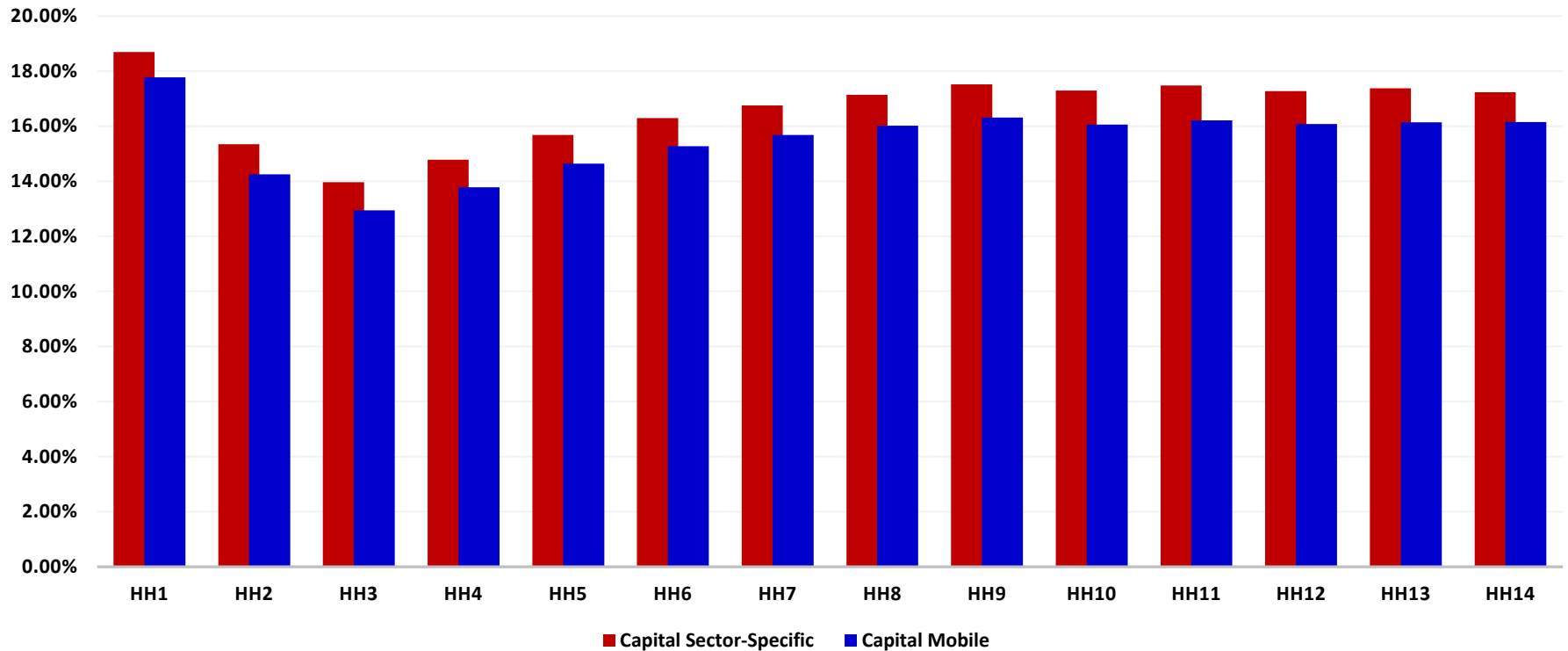
- incomes rose for all groups
- similar patterns for both assumptions, greater under SSCA

Change in Household Income Resulting from a 20% Increase in Government Spending



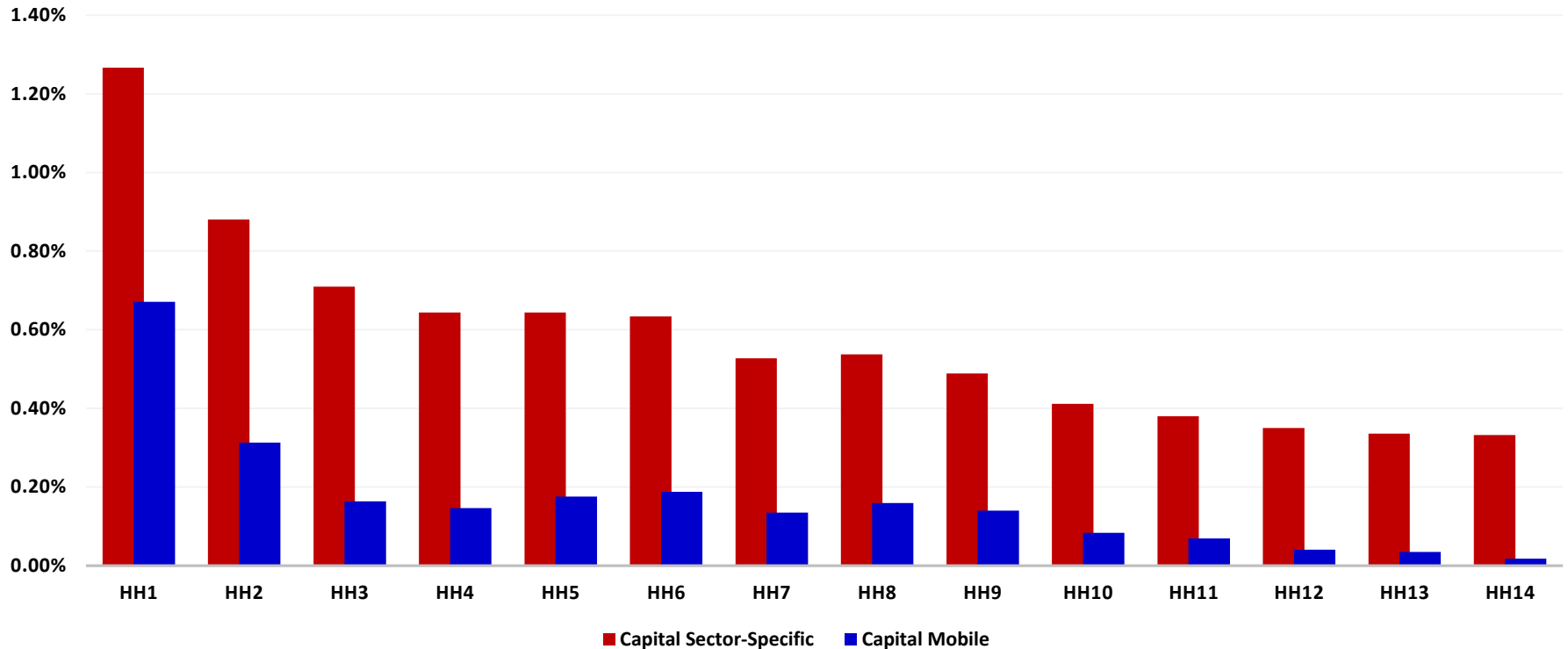
- incomes rose for all groups under both assumptions
- greater increases for the lower income groups and under SSCA

Change in Household Income Resulting from a 20% Decrease in Taxes and Duties on Imports



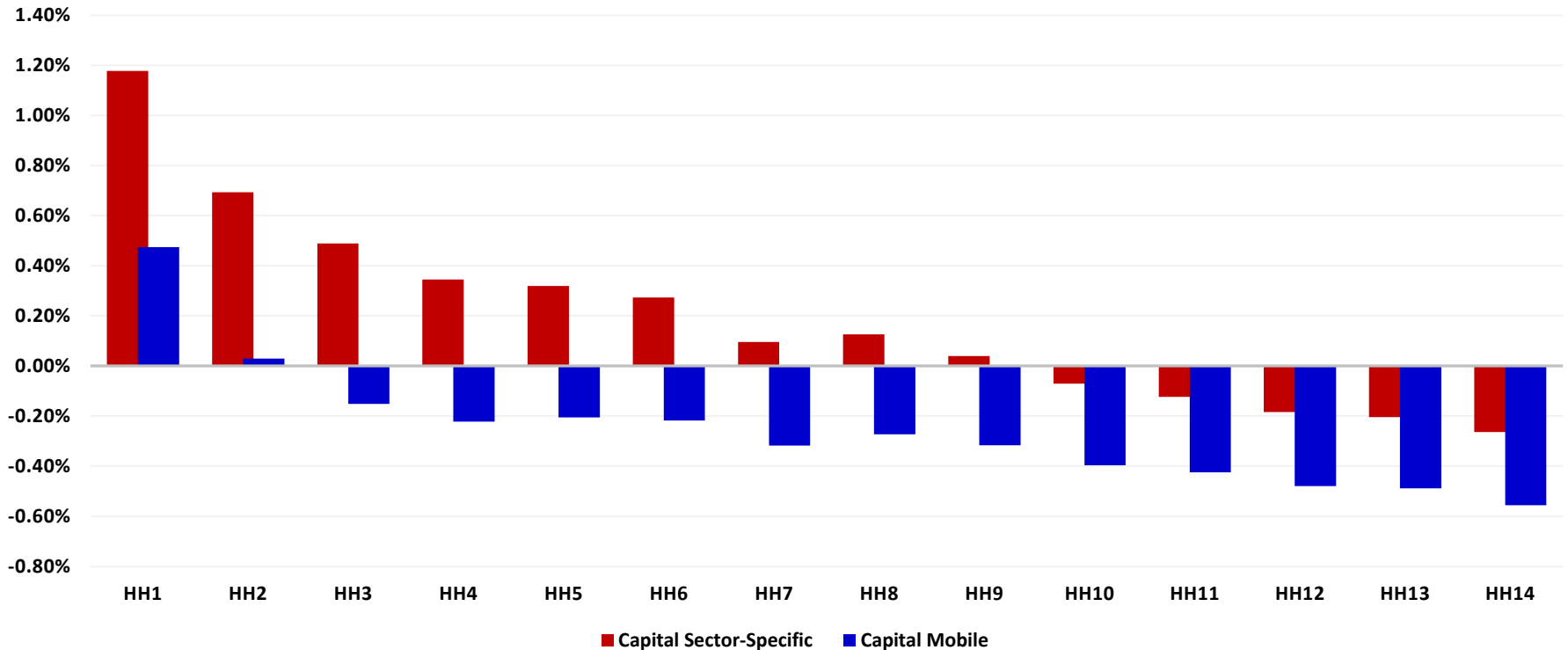
- incomes rose for all groups; increases larger than for other interventions
- similar patterns for both assumptions
- marginally greater under SSCA

Change in Household Income Resulting from a 20% Increase in Taxes and Duties on Imports of Alcohol and Tobacco Products



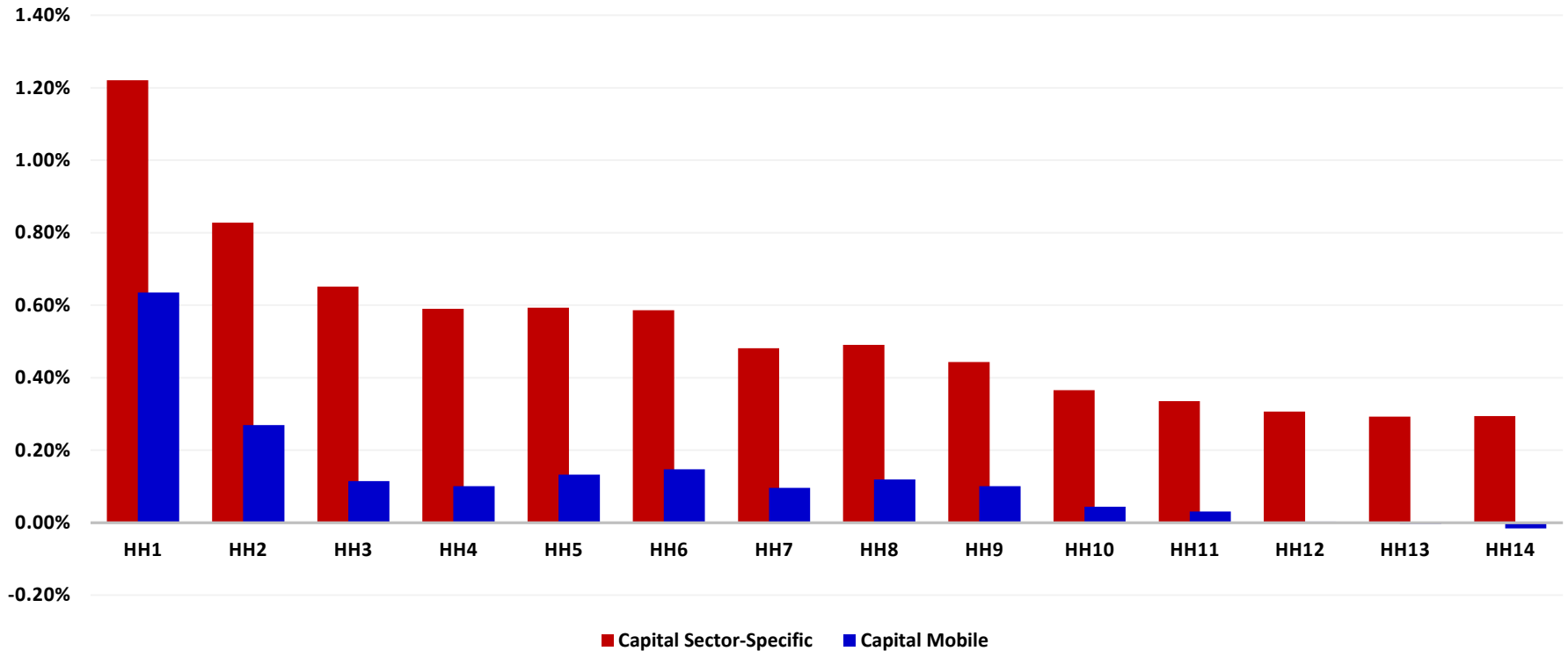
- incomes rose for all groups
- larger for the lower income groups
- significantly greater under the SSCA

Change in Household Income Resulting from a 30% Increase in Taxes on Oil and Gas Commodities



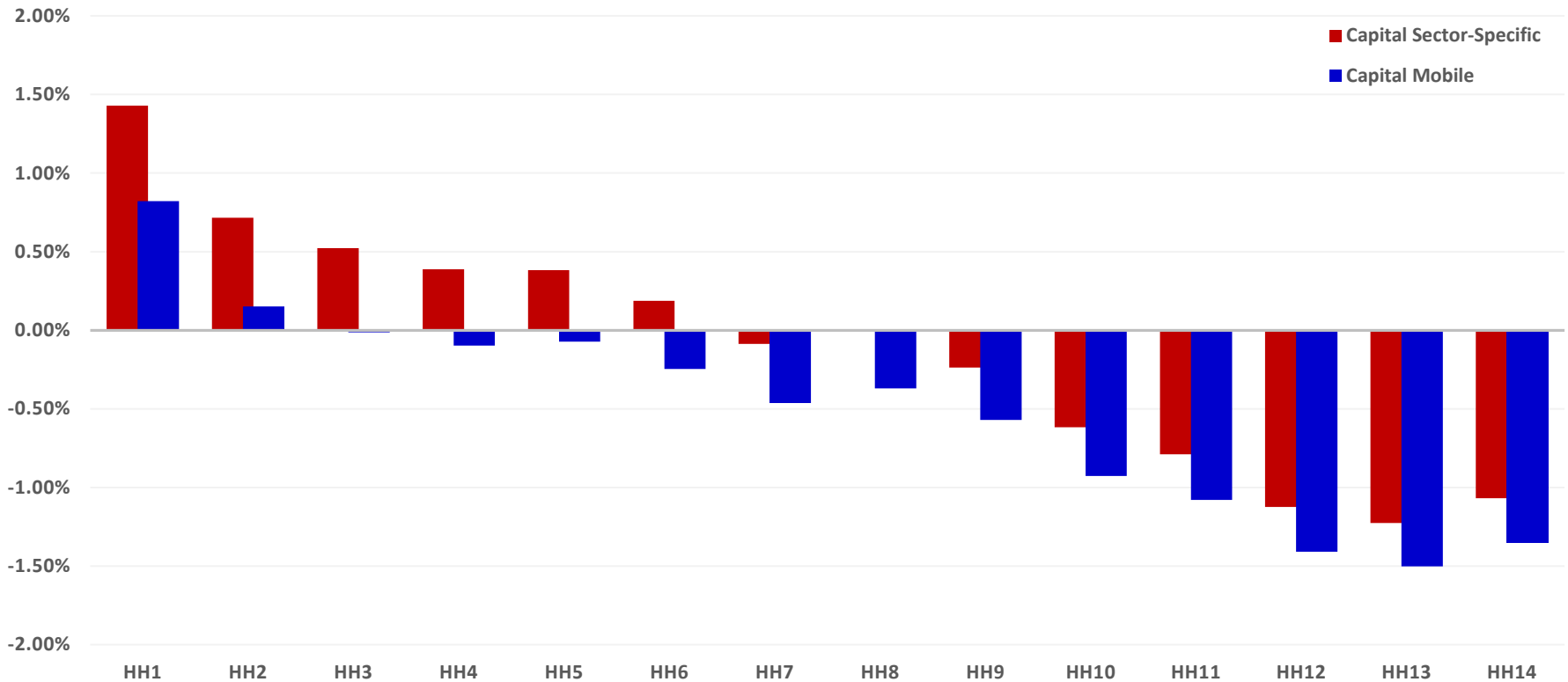
- incomes rose for lower and middle income groups under that SSCA; increases greater for lower income groups
- incomes fell for all except the lowest two groups under the MCA; reductions greater for upper income groups

Change in Household Income Resulting from a 20% Decrease in Production Taxes on Other Manufacturing



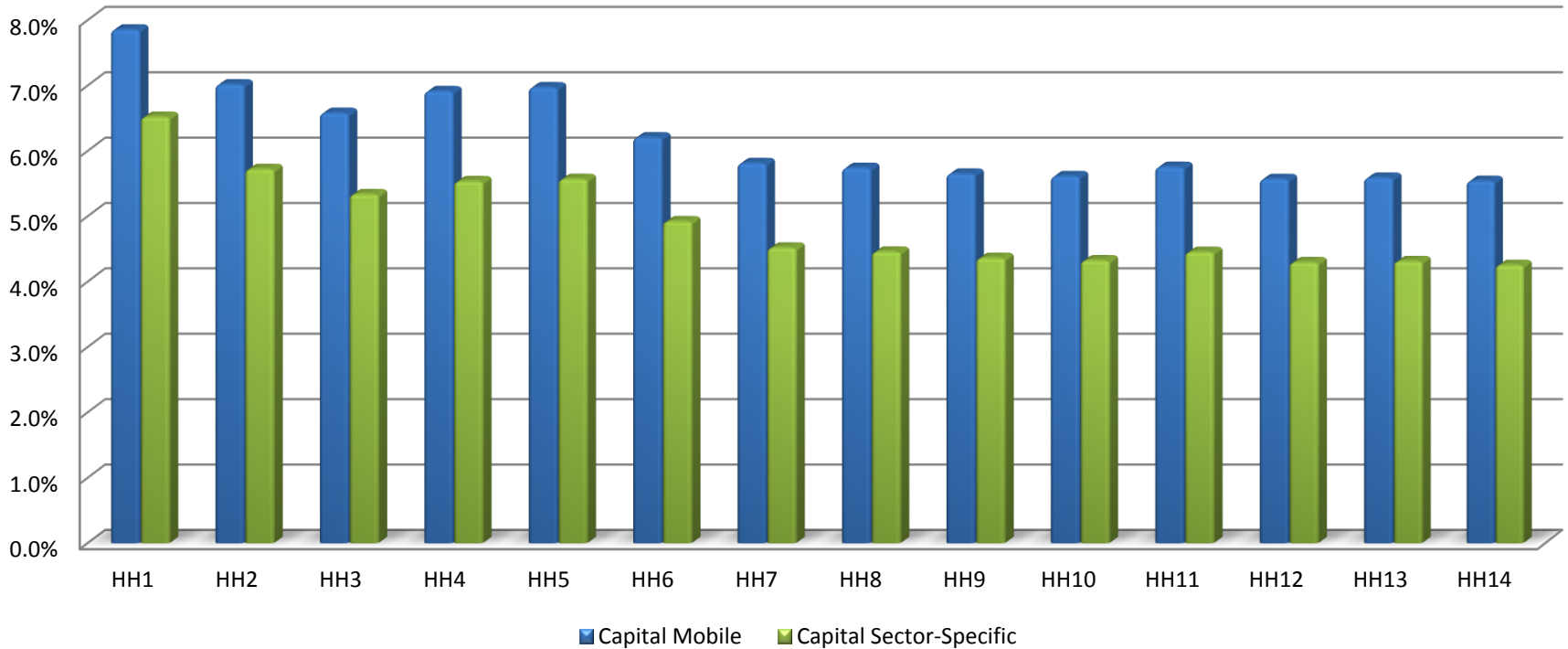
- incomes rose for the vast majority of groups
- greater under the SSCA and for lower income groups

Change in Household Income Resulting from a 20% Increase in Marginal Direct Taxes on Firms



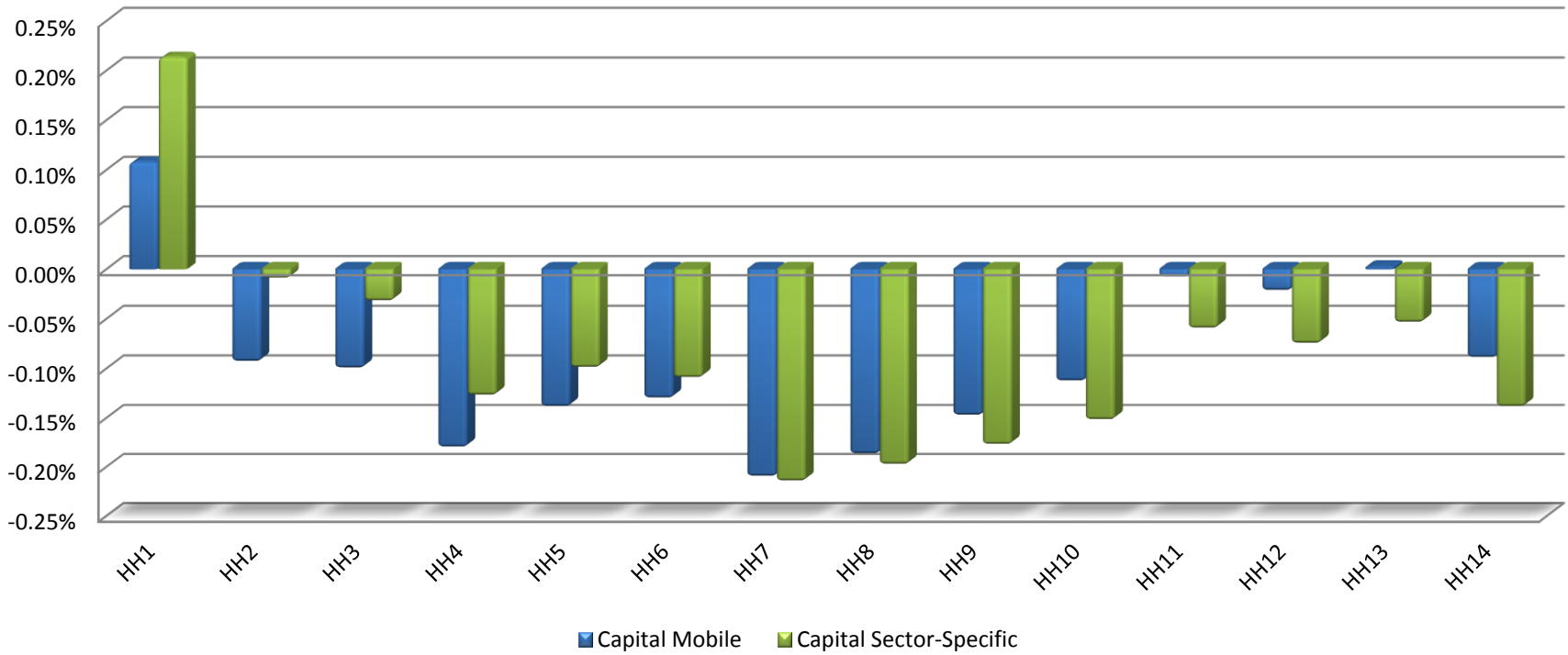
- incomes fell for upper income groups under both assumptions, greater under the MCA but rose for the lower income groups
- incomes rose for lower income groups under both assumptions, greater under the SSCA

Change in Expenditure on Health Services resulting from a 20% Increase in Indirect Taxes



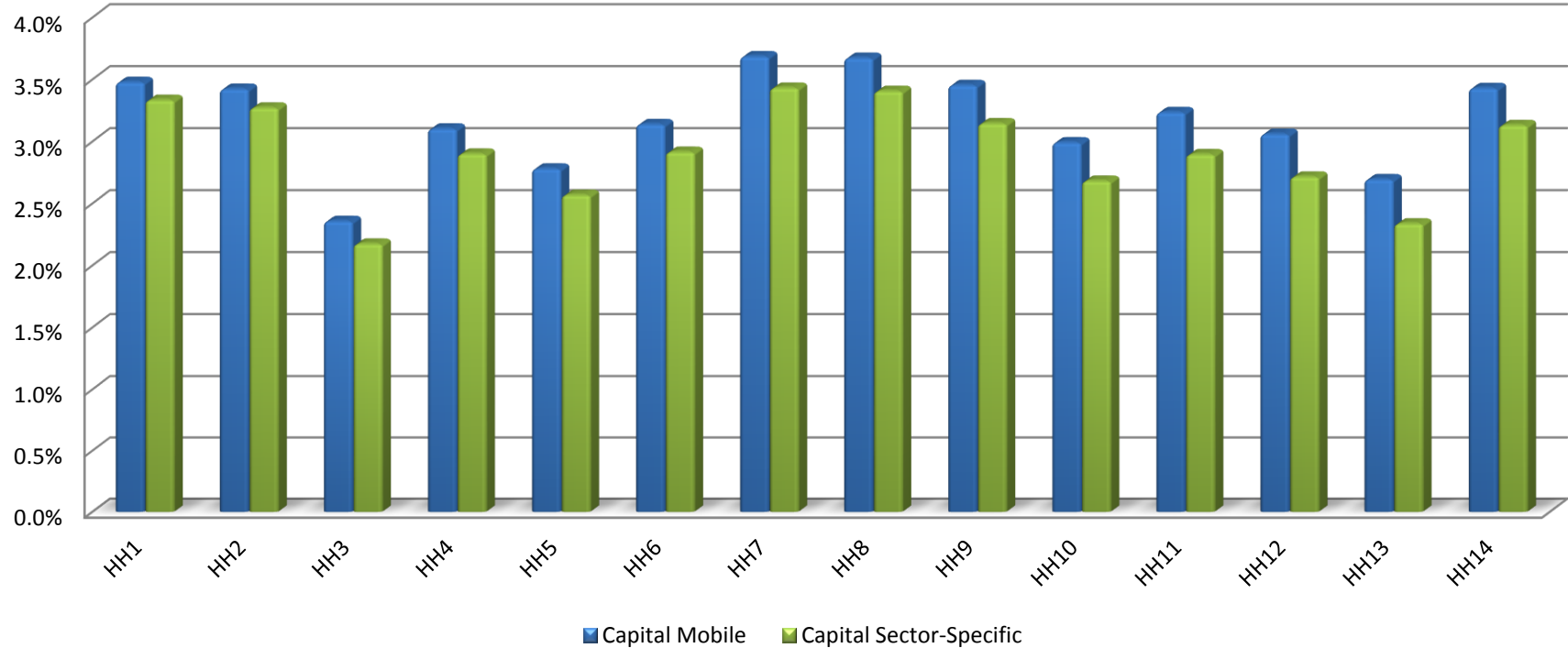
- expenditure on health increased, higher under the MCA and for upper income groups

Change in Expenditure on Confectionary and Other Foods resulting from a 20% Increase in Indirect Taxes



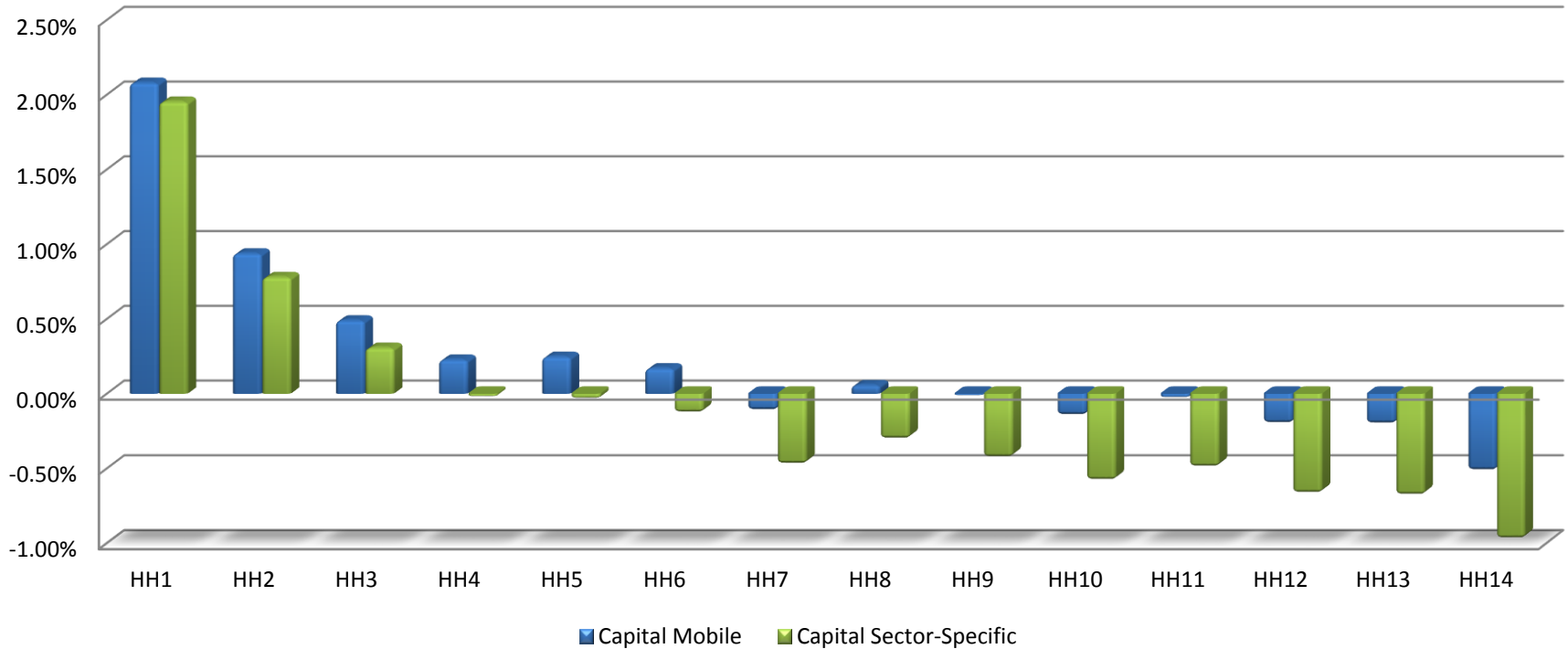
- expenditure on confectionary and other foods declined in most part, especially for the middle income groups
- For upper income groups the SCSA had greater reductions but the opposite is true for the lower income groups

Change in Expenditure on Communication Services resulting from a 50% Decrease in Indirect Taxes



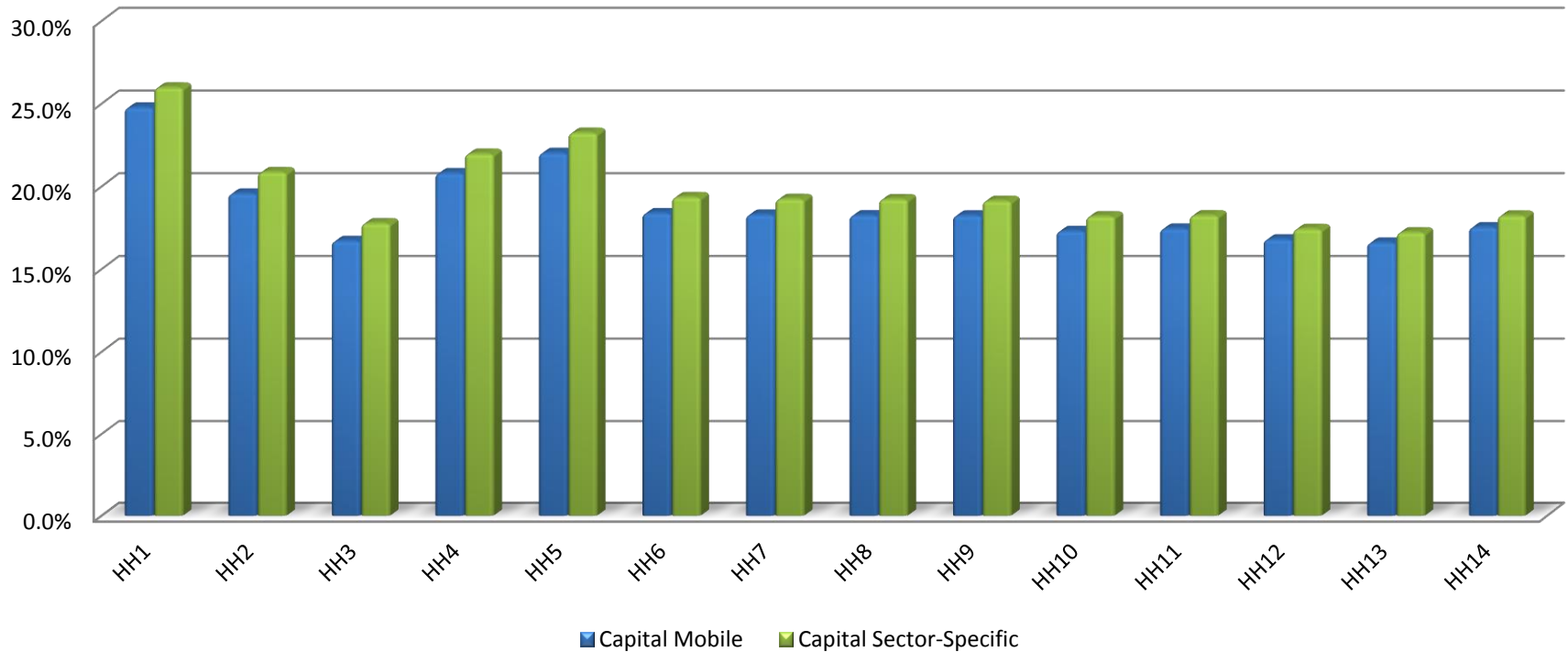
- expenditure on communication services increased; higher under MCA and for upper income groups

Change in Expenditure on Educational Services resulting from a 20% Increase in Government Spending



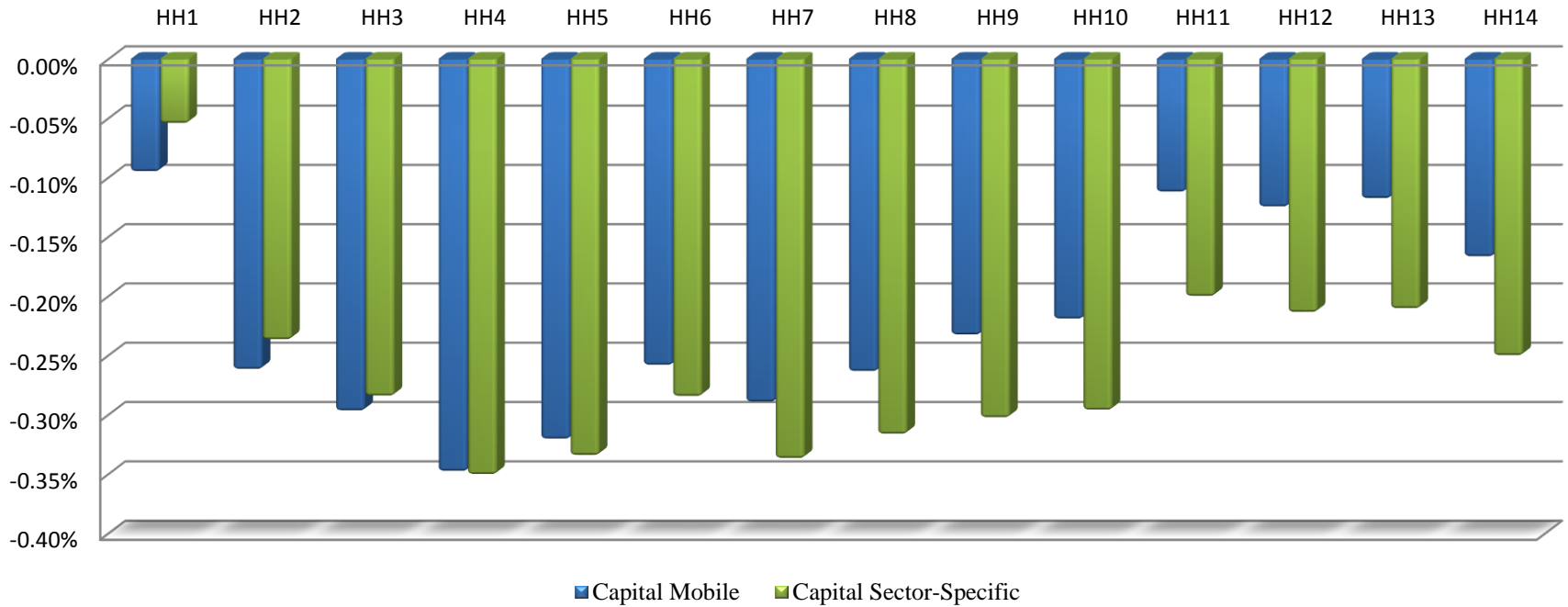
- expenditure on educational services rose for the lower income groups under both assumptions but fell for the upper income groups
- Reductions were greater under the SSSA

Change in Expenditure on Household Appliances resulting from a 20% Decrease in Taxes and Duties on Imports



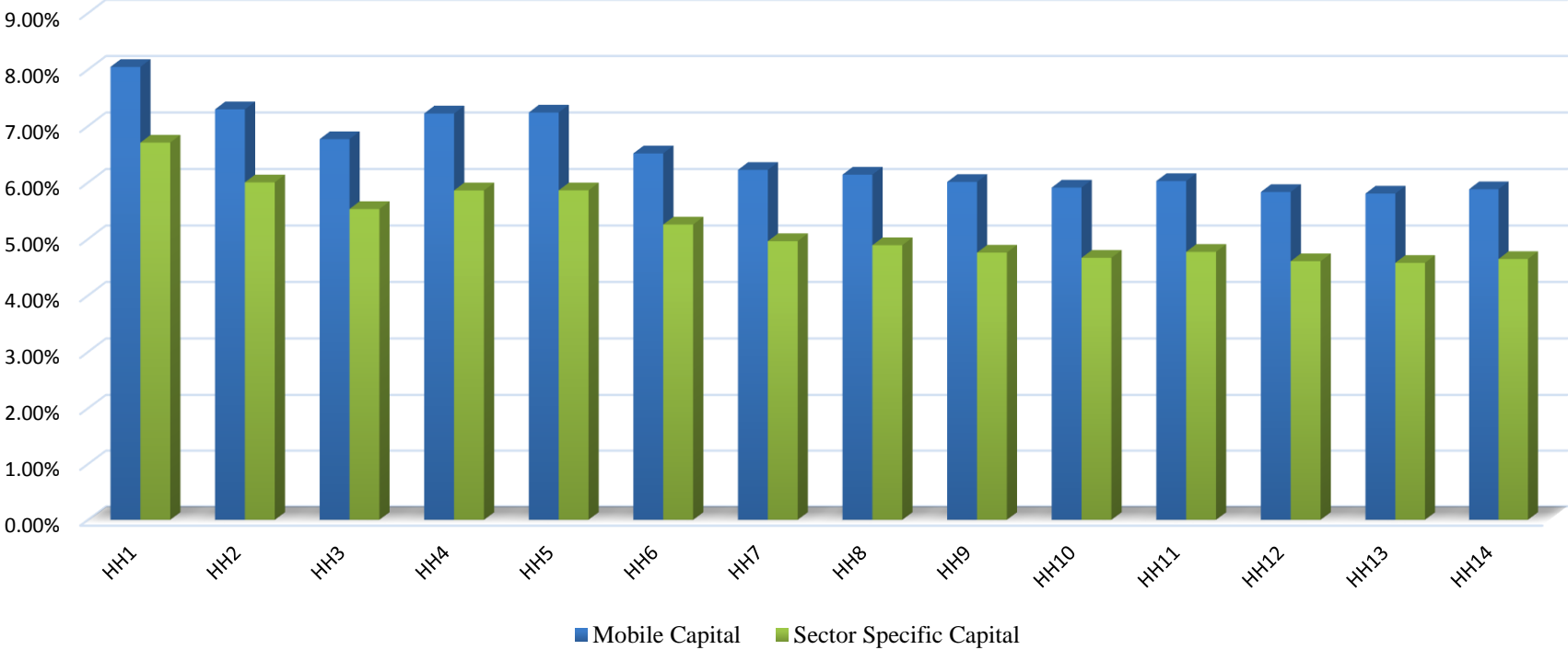
- expenditure on household appliances rose; especially for lower and lower middle income groups

Change in Expenditure on Alcohol and Tobacco Products resulting from a 20% Increase in Taxes and Duties on Imports of Alcohol and Tobacco Products



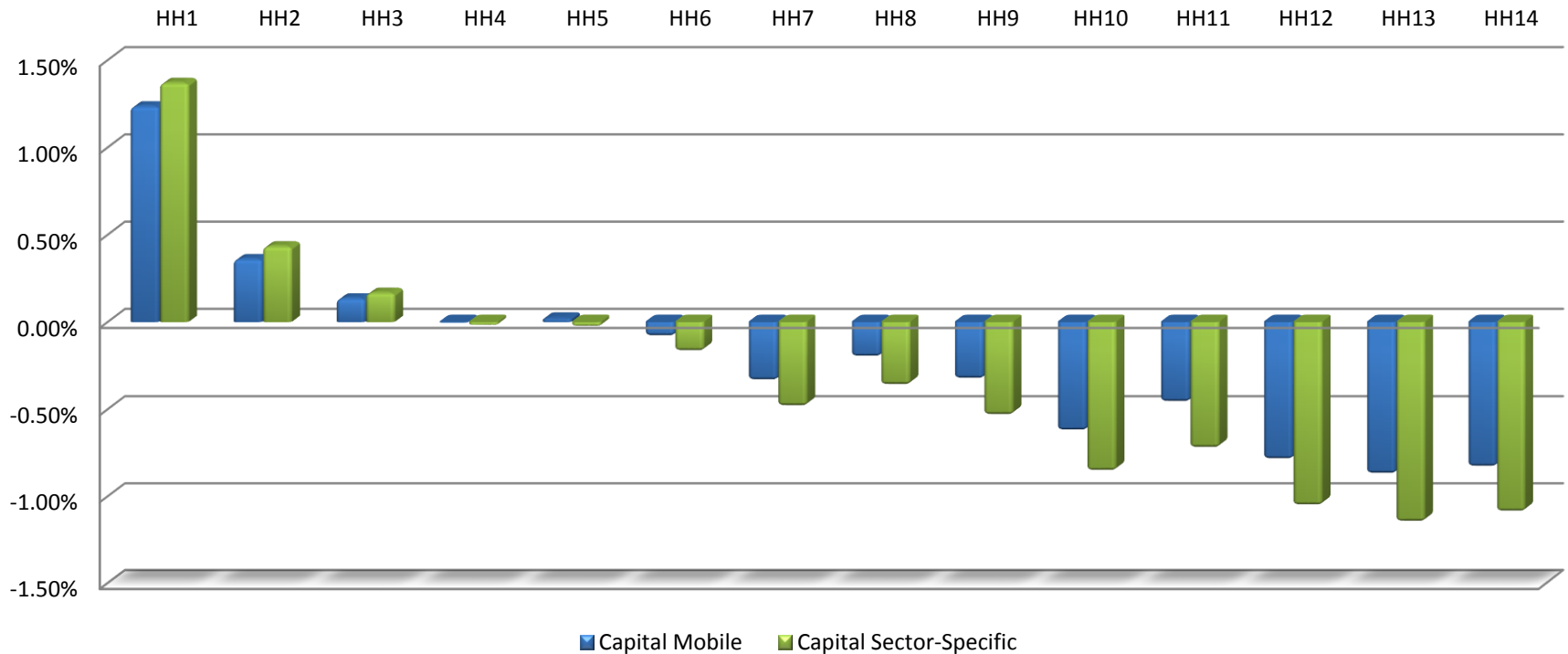
- expenditure on alcohol and tobacco products fell for all groups

Change in Expenditure on Health resulting from a 20% Increase in Taxes and Duties on Imports of Alcohol and Tobacco Products



- expenditures on health rose
- Greater under the MCA

Change in Expenditure on Personal Services resulting from a 20% Increase in Marginal Direct Taxes Firms



- **expenditure on personal services fell upper income groups and rise for lower income groups**
- **greater under the SSCA**

Changes in GDP Resulting from Simulations

Assumption	Increase in Indirect Taxation	Decrease in Indirect Taxation	Increase in Government Spending	Decrease in Average Taxes and Duties on Imports	Increase in Taxes and Duties on Imports of Alcohol and Tobacco Products	Increase in Tax on Commodities of Oil and Gas Refineries	Decrease in Production Tax on Other Manufacturing	Increase in Marginal Direct Tax on Firms
MC	-0.6%	-2.2%	1.1%	23.6%	-1.0%	-1.1%	-1.1%	-1.0%
SSC	-0.1%	-1.6%	2.3%	23.7%	-0.4%	-0.4%	-0.4%	-0.4%

Conclusions

- Fiscal policy interventions are likely to affect households differently in terms of their effect on income.**
- Expenditure choices in response to a given intervention differ from one household group to the other.**

□ The response to an intervention is also related to the category of the good purchased, whether essential or non-essential and to the proportion of income expended on that category.

□ The size of the impact varies with changes in the assumption made regarding the nature of capital. This is likely to be true for changes in other assumption, so the assumptions do matter.

□ The effect of fiscal policy on the level of output is different from one policy to the next. The same magnitude and direction of change in indirect taxes is likely to produce a different effect than for taxes on imports.

Recommendations

- ❑ Extend the SAM to include environment indicators, develop a model to measure the environmental impact of macroeconomic policies.**
- ❑ Undertake a study to determine the effects of macroeconomic policies on specific regions.**

Recommendations

- ❑ **Disaggregate the enterprise sector in the SAM and target research into firms on the basis of their scale of operations and the industry in which they operate. Use this to assess issue such as of export competitiveness, labour and import productivity**

THANK YOU