

Evaluation of Climate Policy

by

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Università
della
Svizzera
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IGEM:

An Intertemporal Model of the U.S. Economy for Modeling Energy and Environmental Policy

Household Model Incorporates Demography

Demand for Leisure and the Supply of Labor

Production Model Incorporates Technology

Endogenous Technical Change

Resources and Energy Supply

2

Growth

V O L U M E 2

*Energy,
the Environment, and
Economic Growth*

Dale W. Jorgenson

AGGREGATE IMPACTS OF CAP-AND-TRADE POLICIES

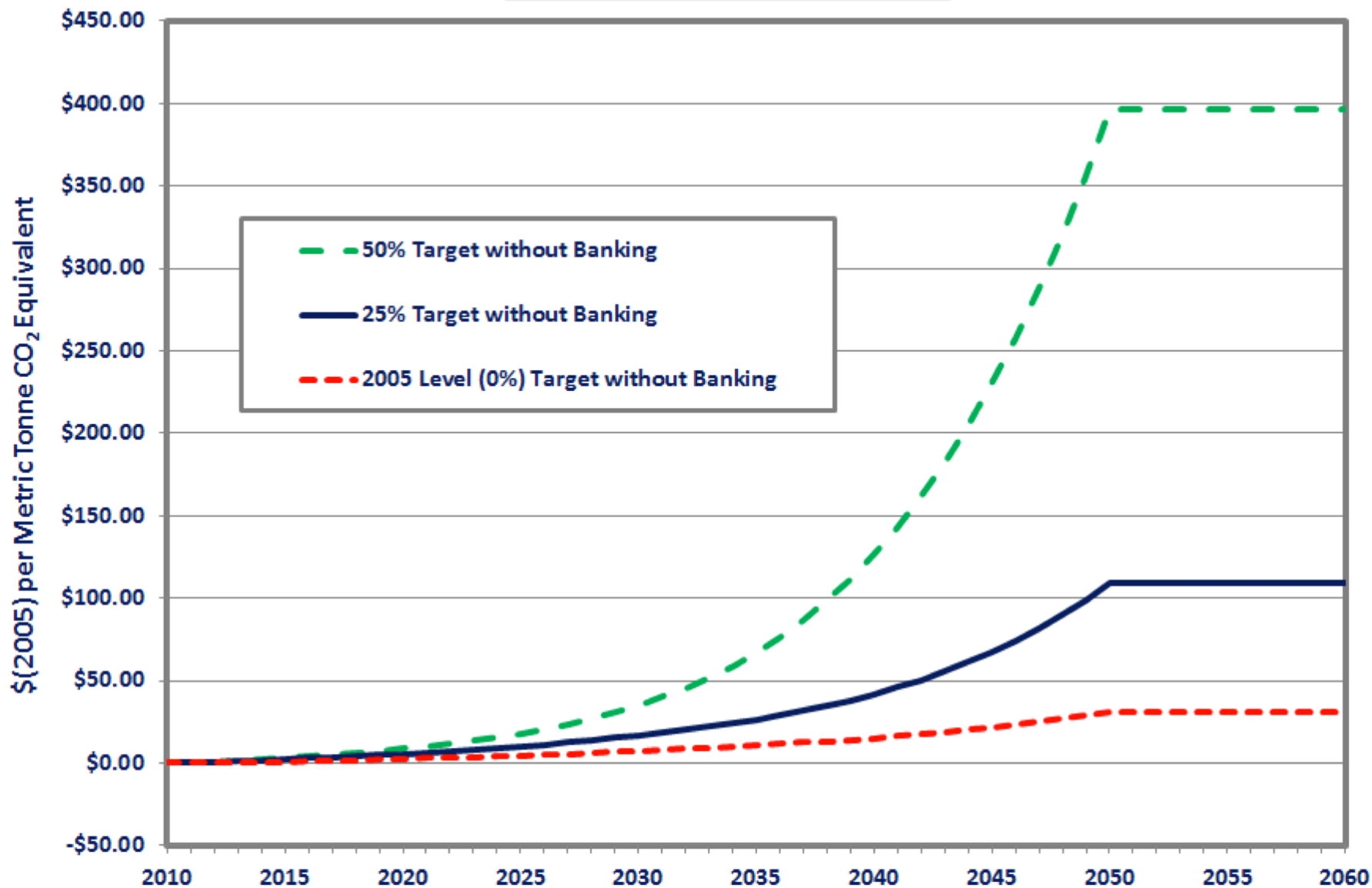
Establishing a Permit Price

Total Greenhouse Gas Emissions

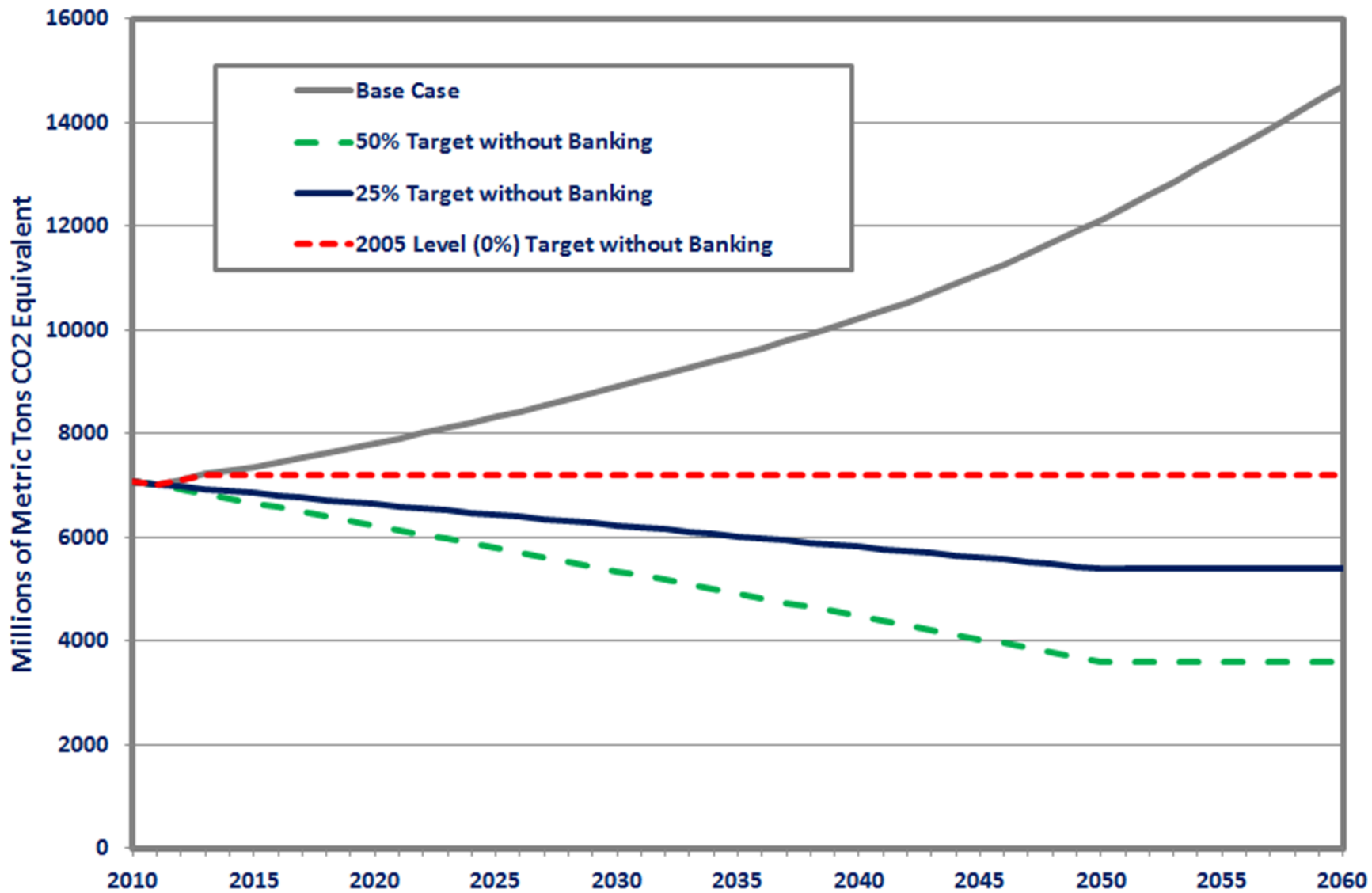
Impacts on GDP

Impacts on Welfare

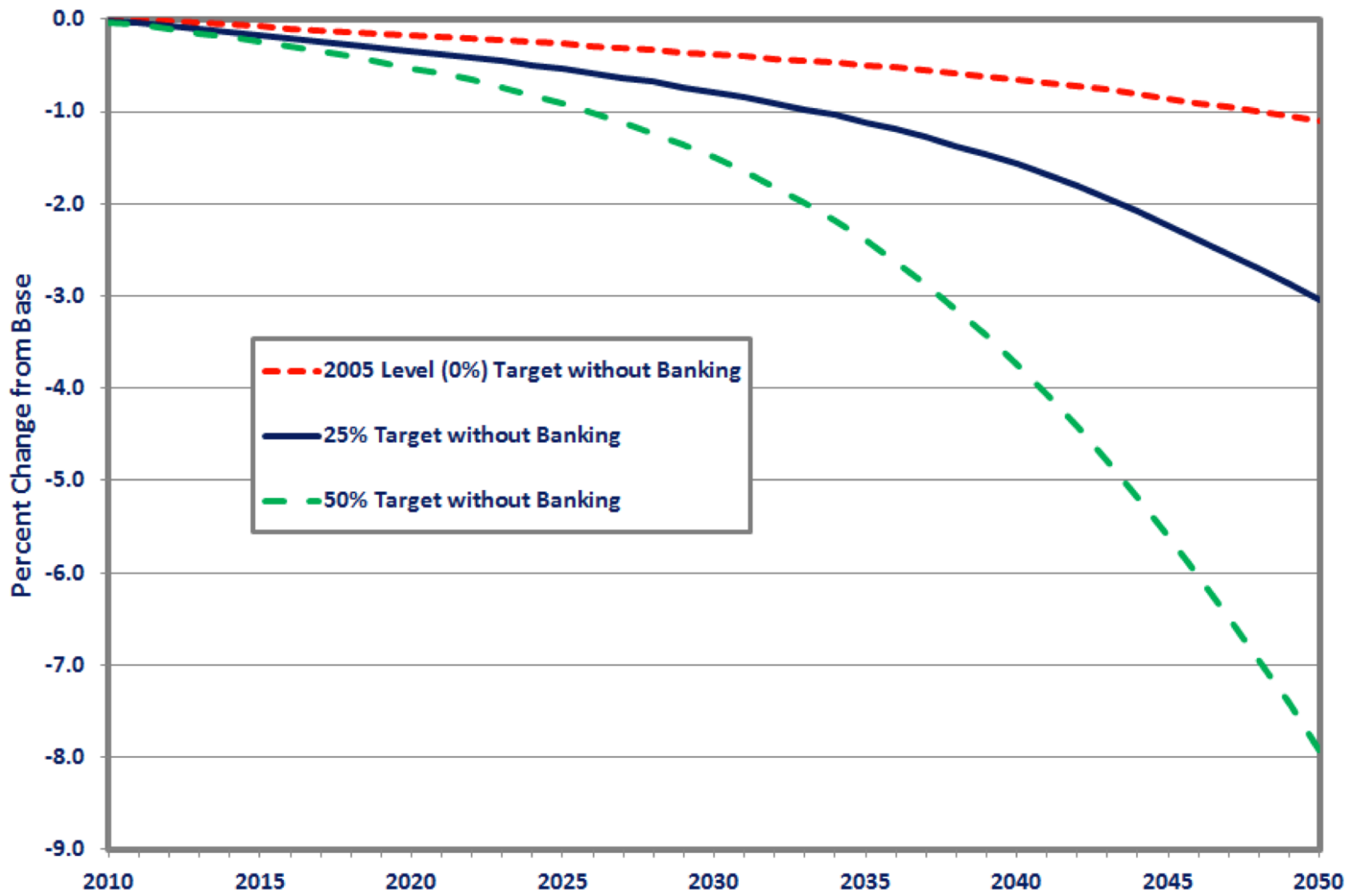
Allowance Prices



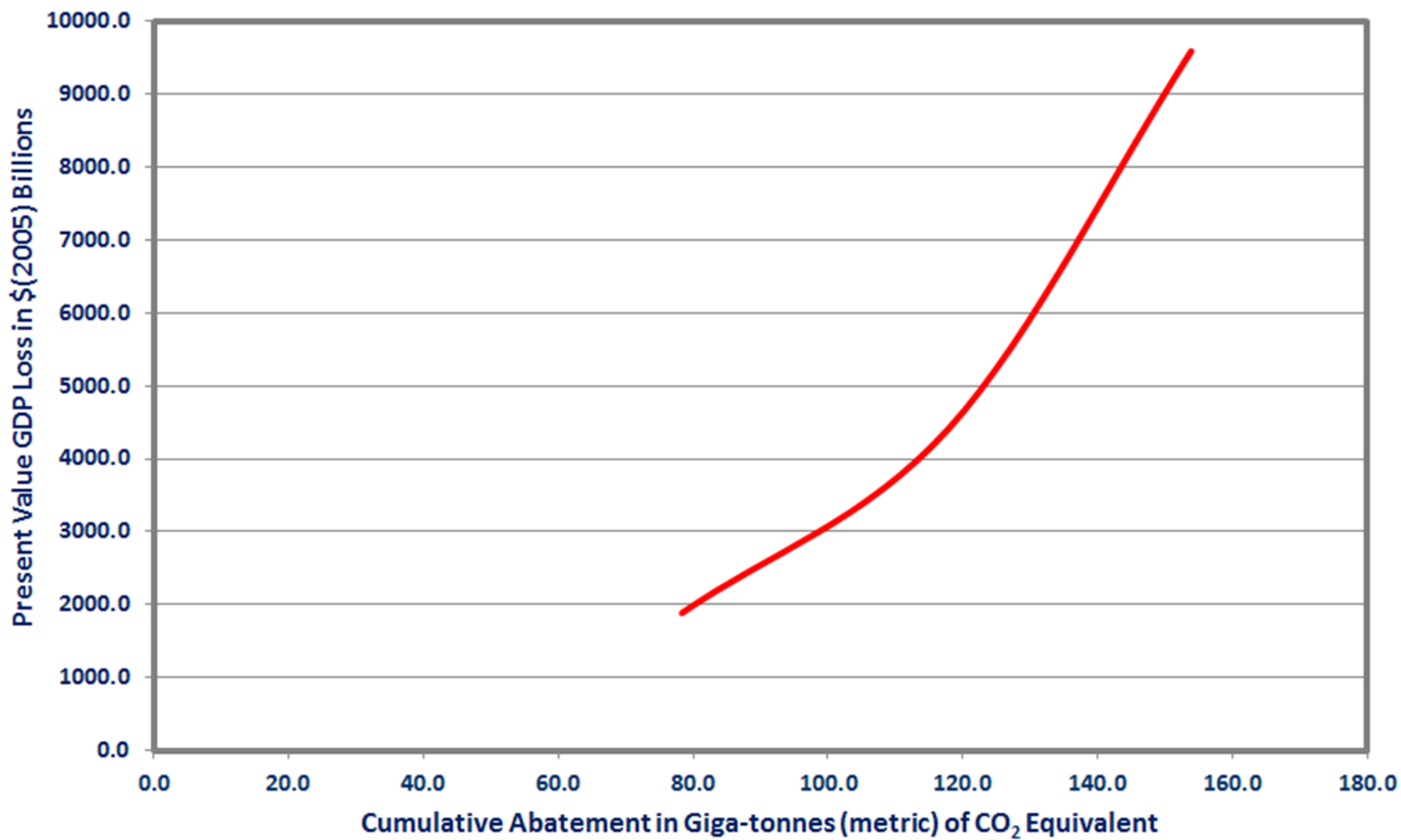
Total Greenhouse Gas Emissions



Impacts on Real GDP



GDP Loss vs. Abatement, 2010-2050



INDUSTRY IMPACTS OF CAP-AND-TRADE POLICIES

Changes in the Composition of GDP

Composition of Output and Losses

Impact on Induced Technical Change

1

Econometrics

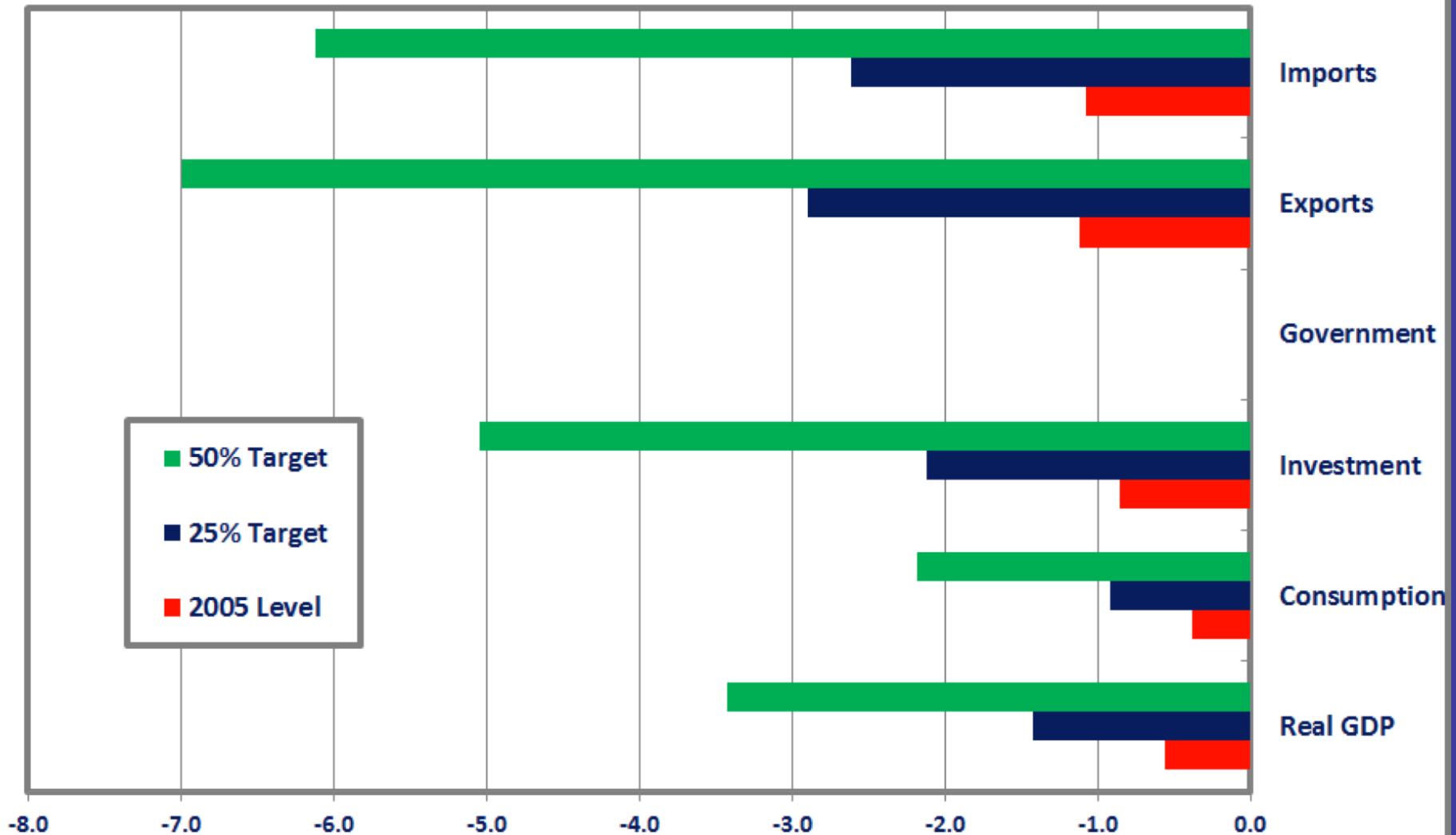
V O L U M E I

*Econometric Modeling
of Producer Behavior*

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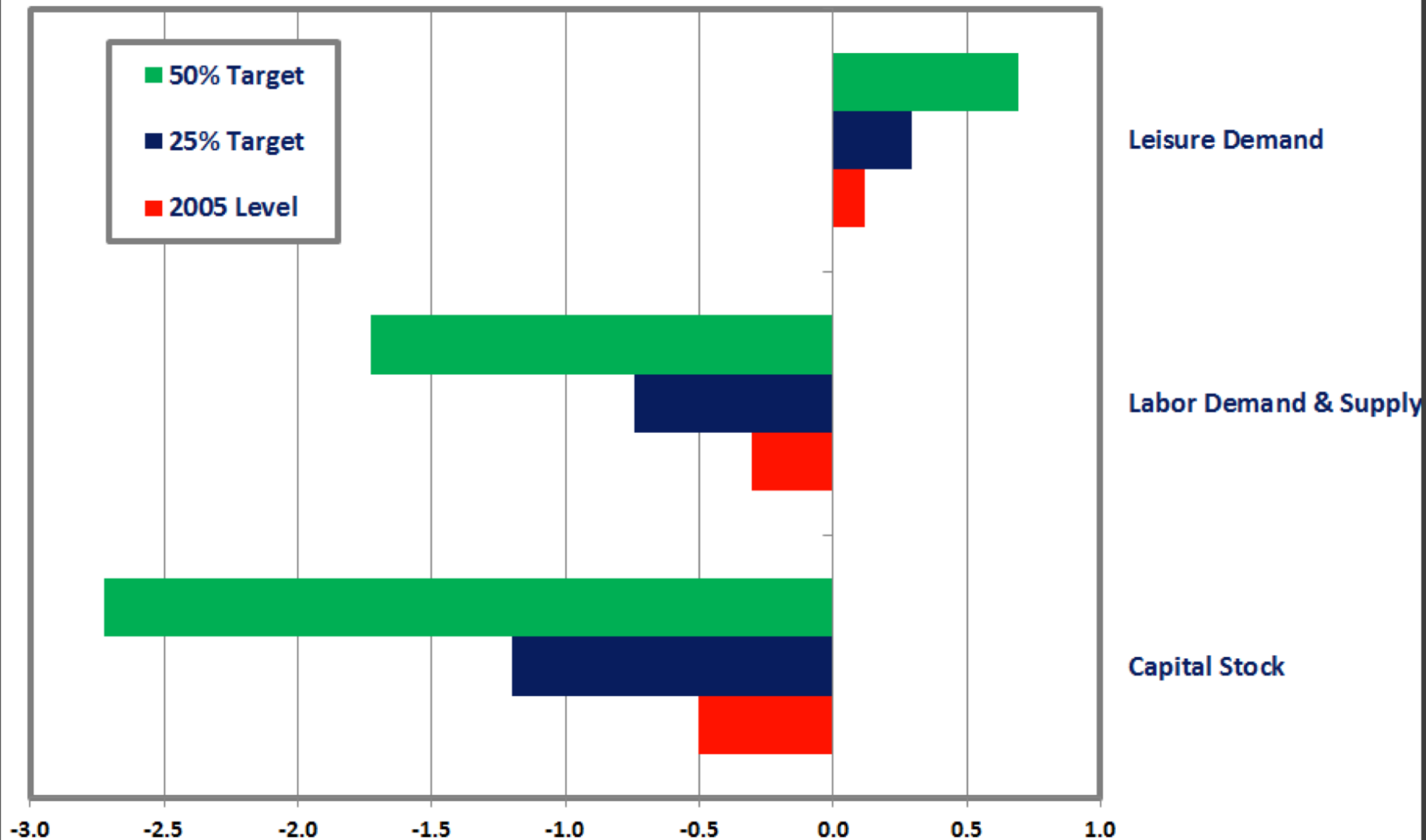
Impacts on Real Final Demand

Average percent change from Base, 2010-2060

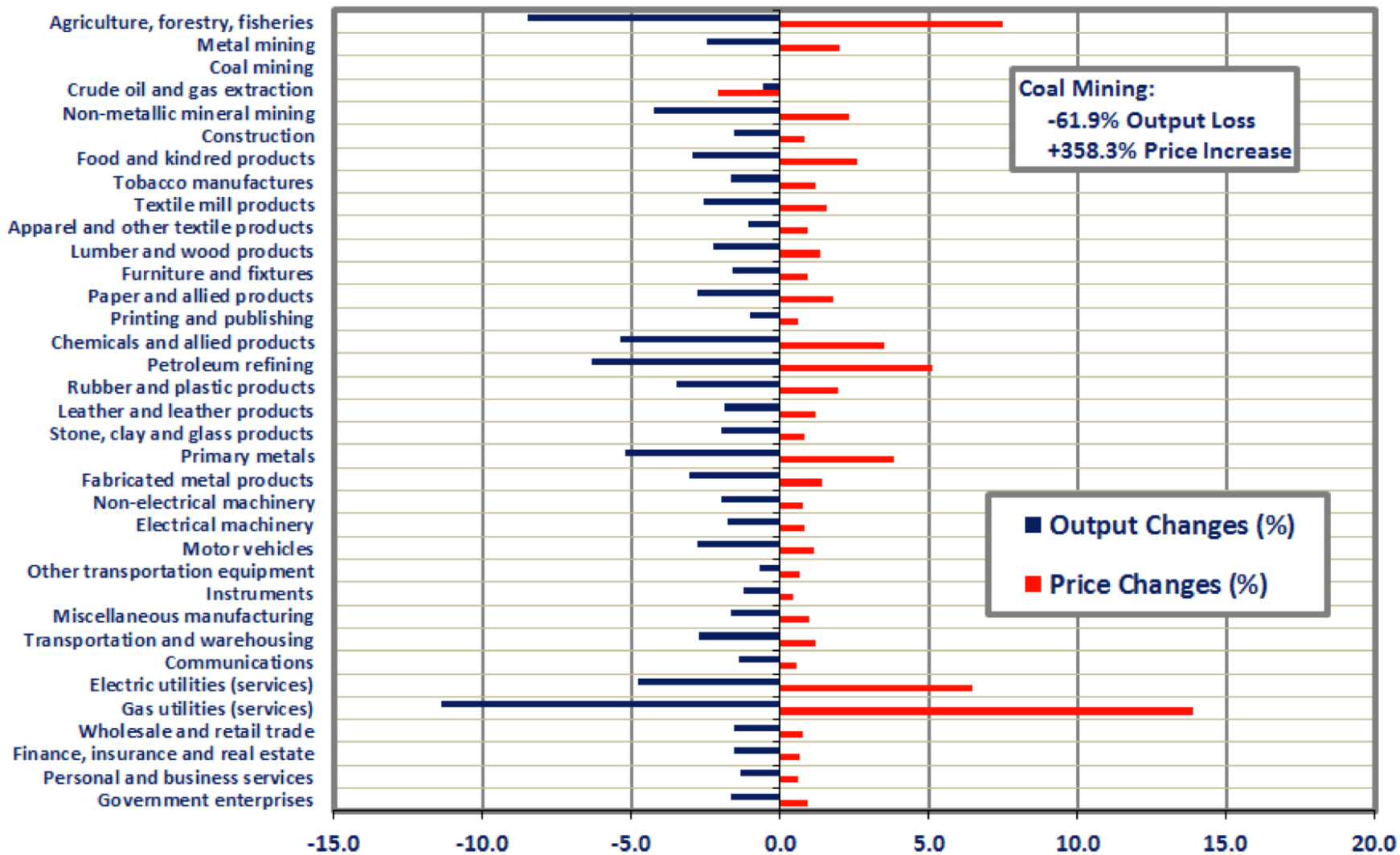


Impacts on Real Value Added

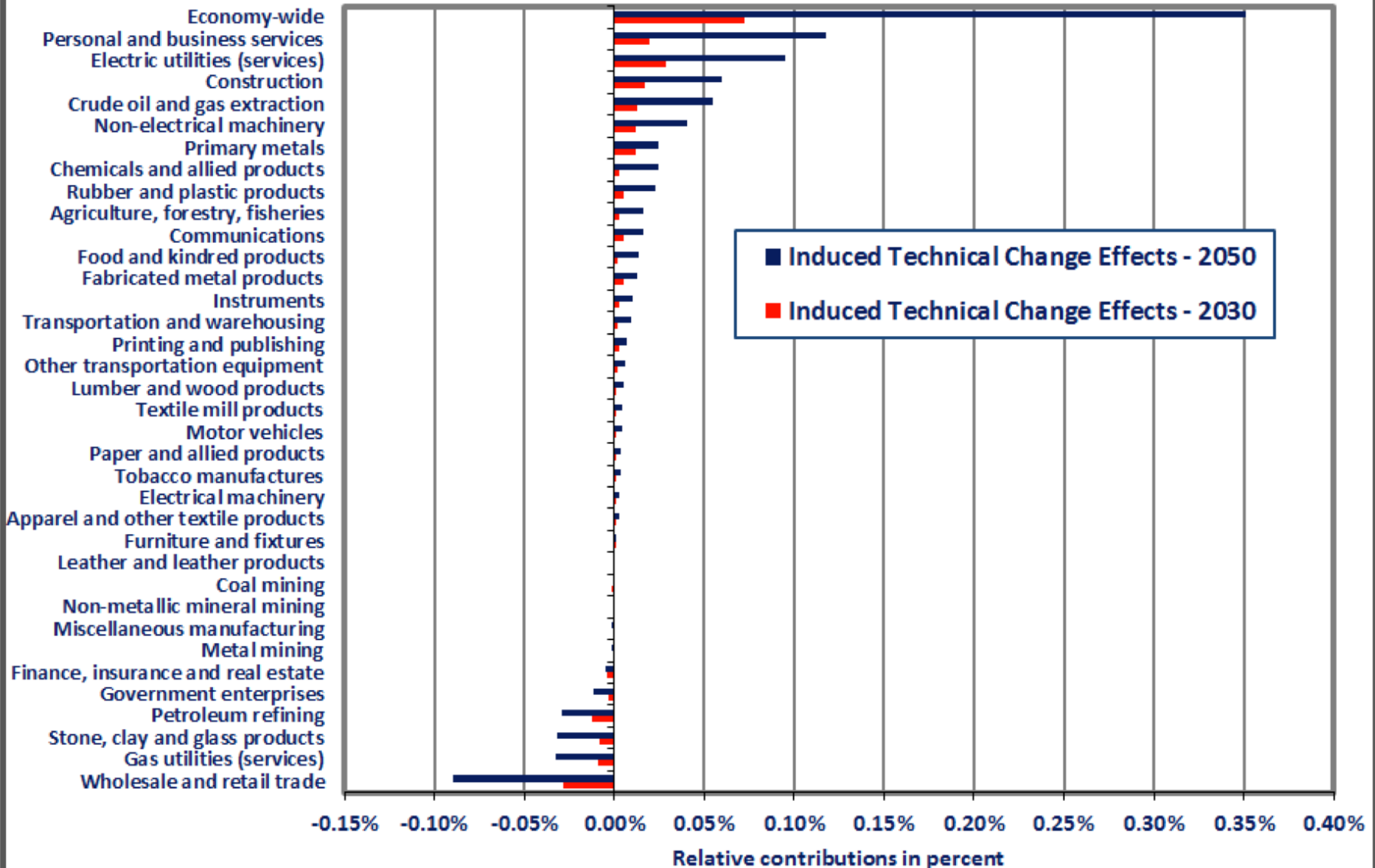
Average percent change from Base, 2010-2060



Output and Price Changes from Base, Average 2010-2060 25% Target without Banking



Price-induced Technical Change



WELFARE IMPACTS OF CAP-AND-TRADE POLICIES

Household Welfare Effects and Full Wealth

Variations in Full Wealth

Household Welfare Effects

Distribution of Household Welfare Effects

2

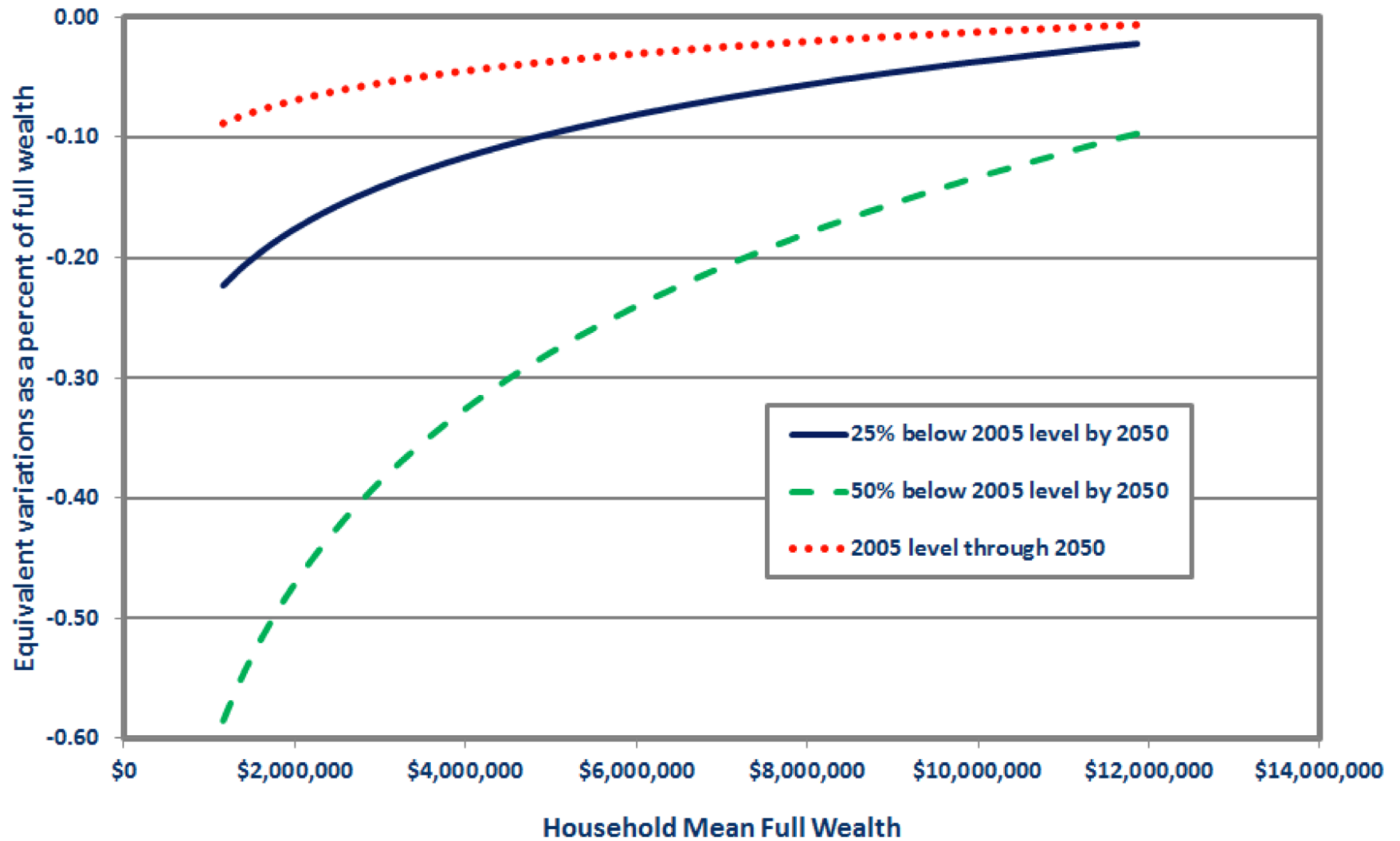
Welfare

V O L U M E 2

*Measuring Social
Welfare*

Dale W. Jorgenson

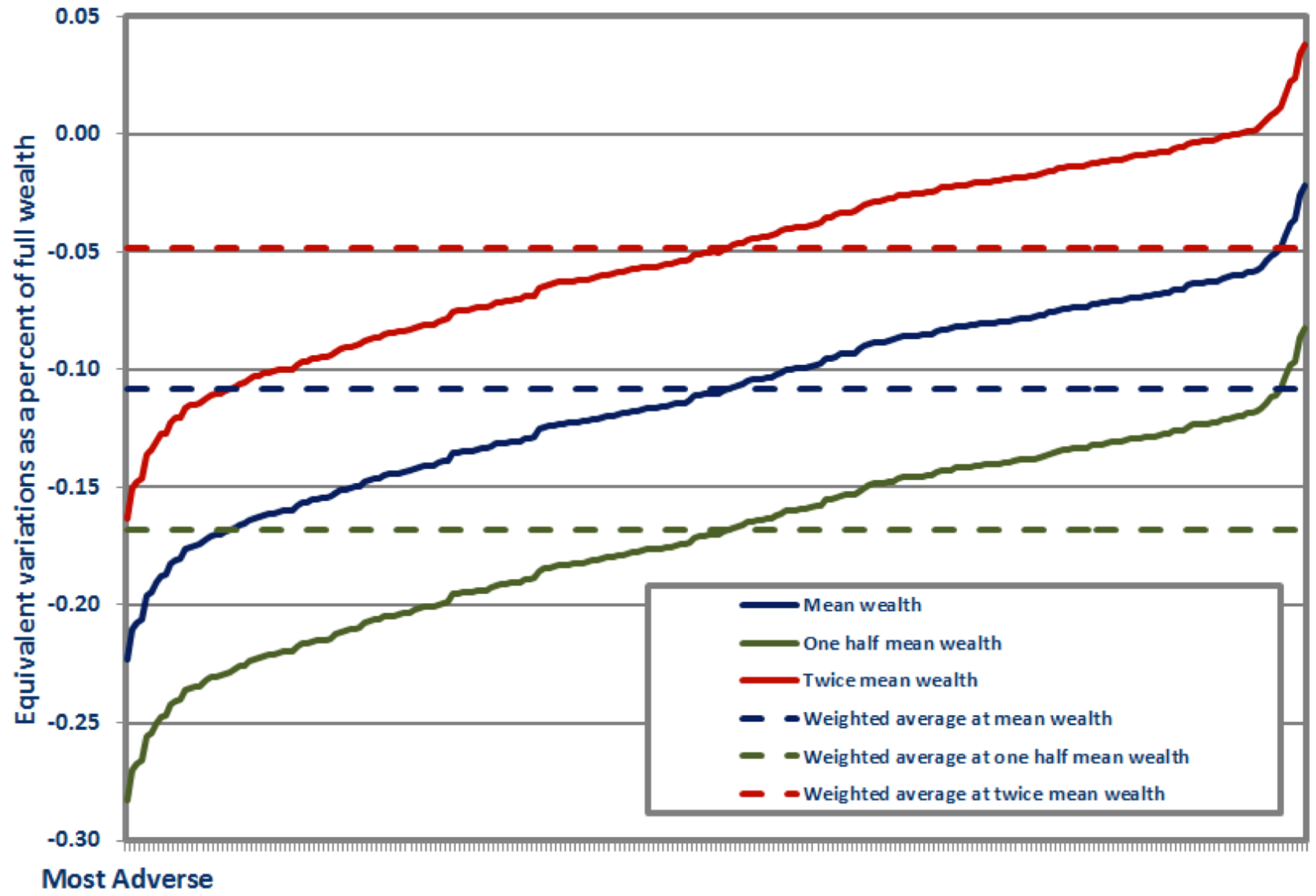
Household Welfare Effects and Full Wealth (At Mean Wealth without Banking, 244 Household Types)



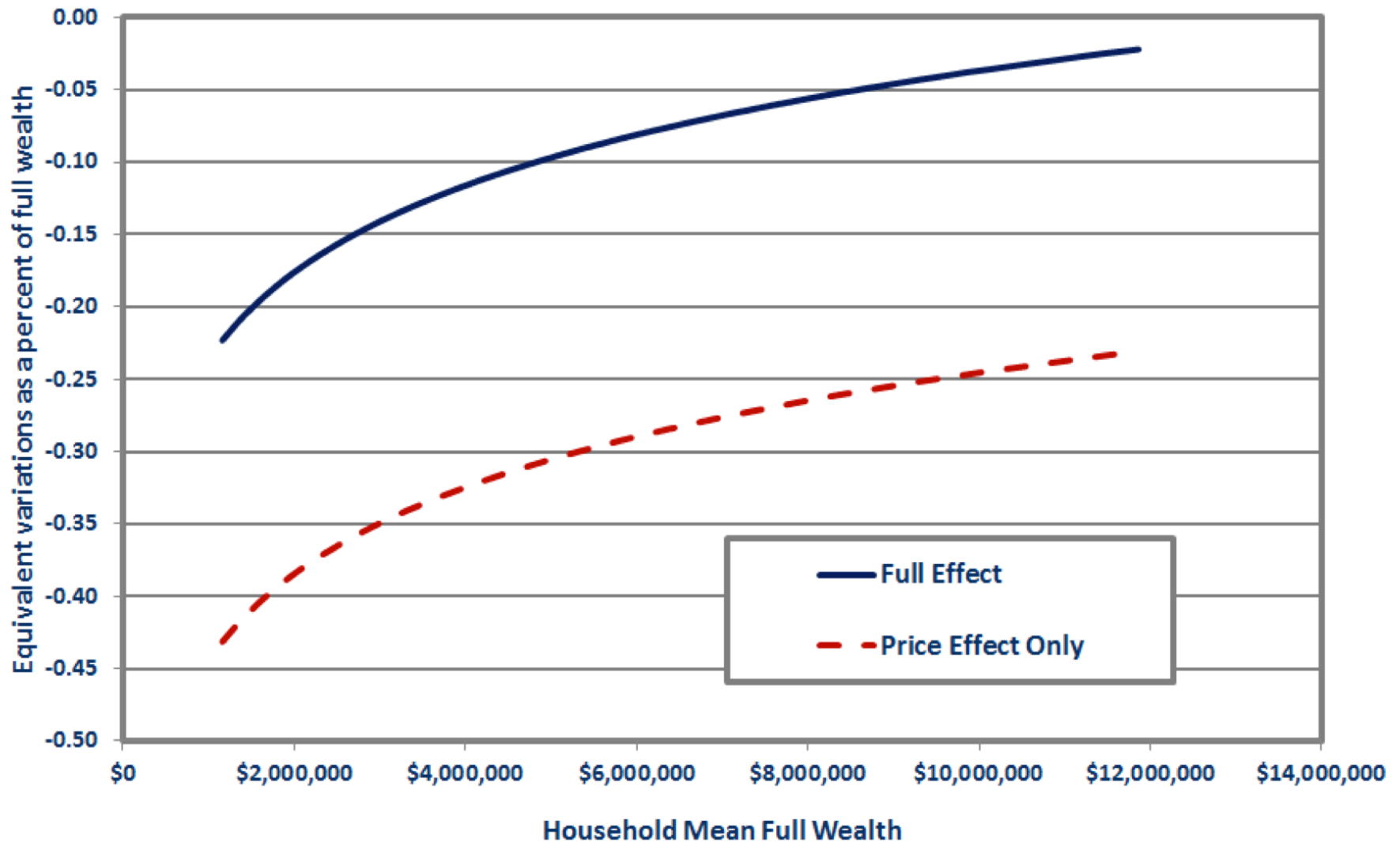
Household Welfare Effects and Full Wealth (25% Target without Banking, 244 Household Types)

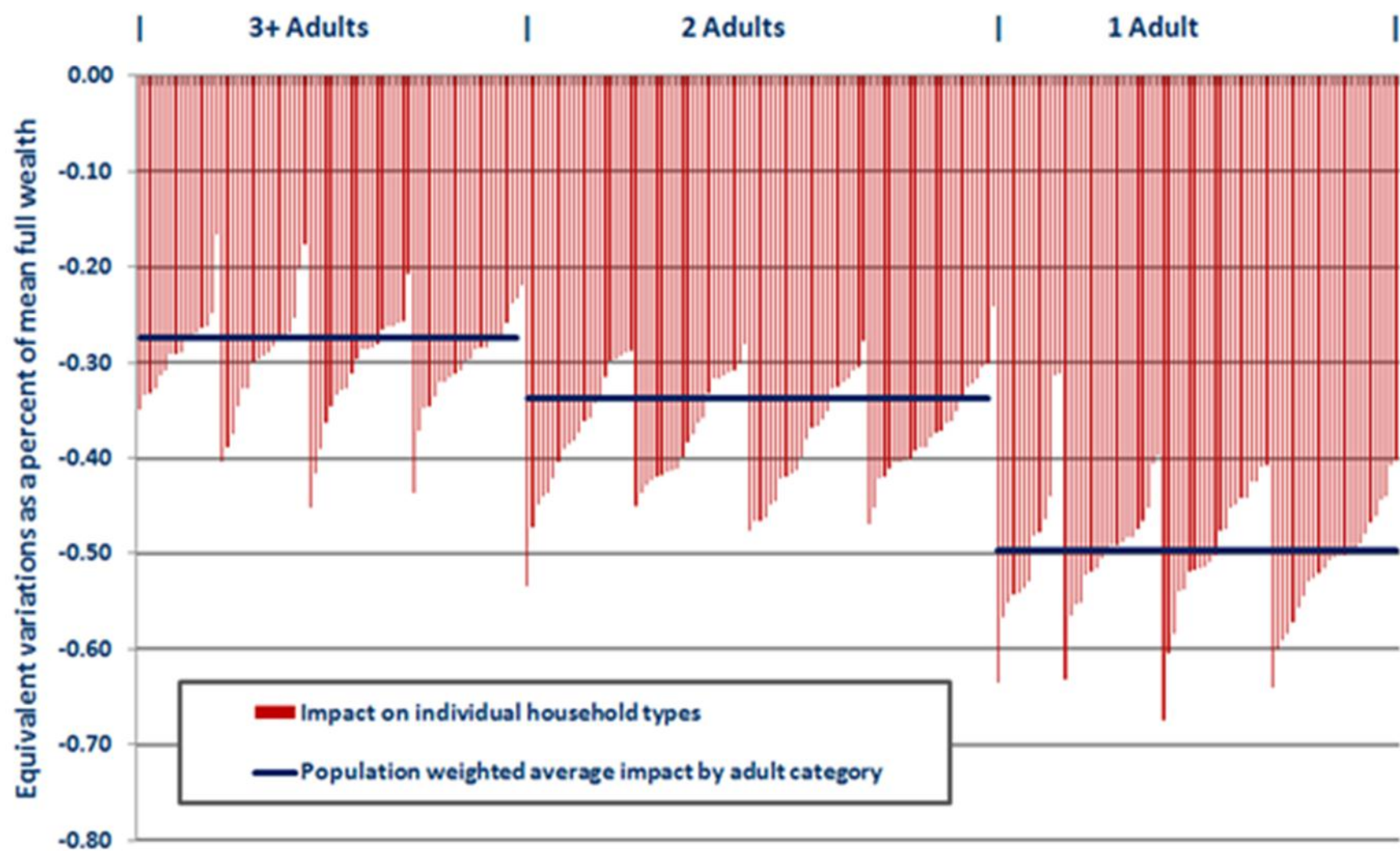


Household Welfare Effects (25% Target without Banking, 244 Household Types)

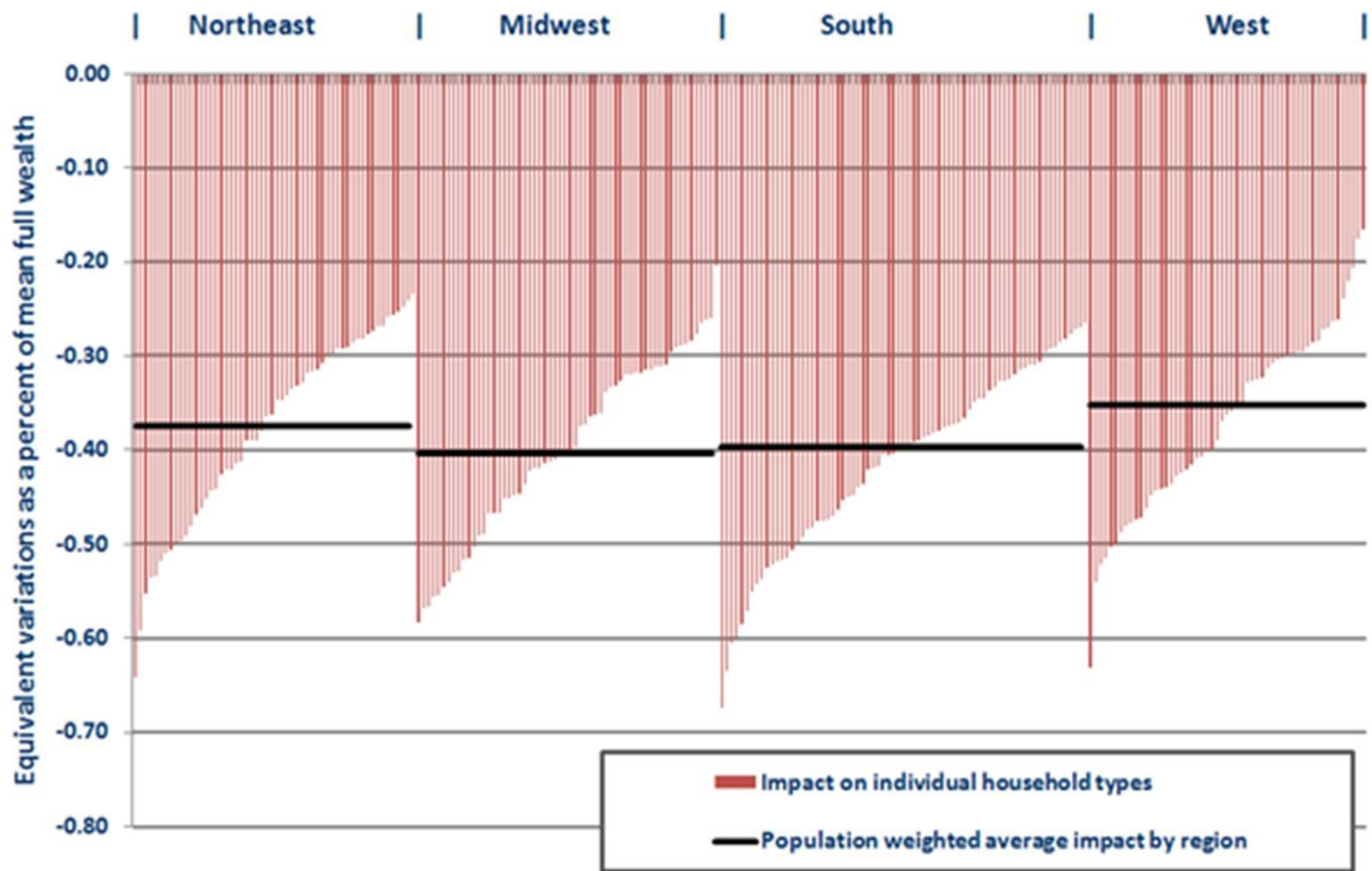


Decomposition of Household Welfare Effects (25% Target without Banking at Mean Full Wealth)

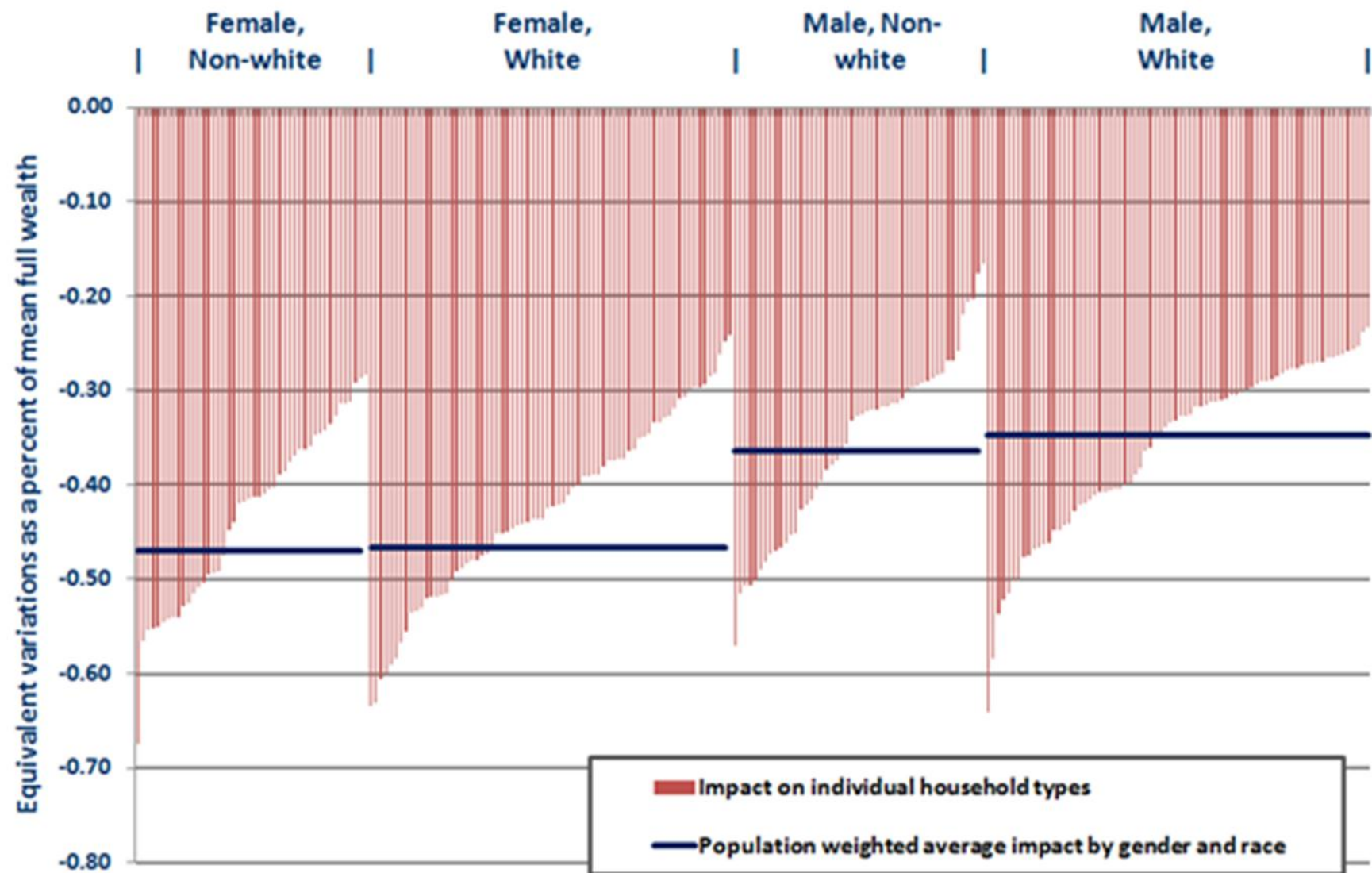




Household Welfare Effects by Family Size (At Mean Full Wealth)



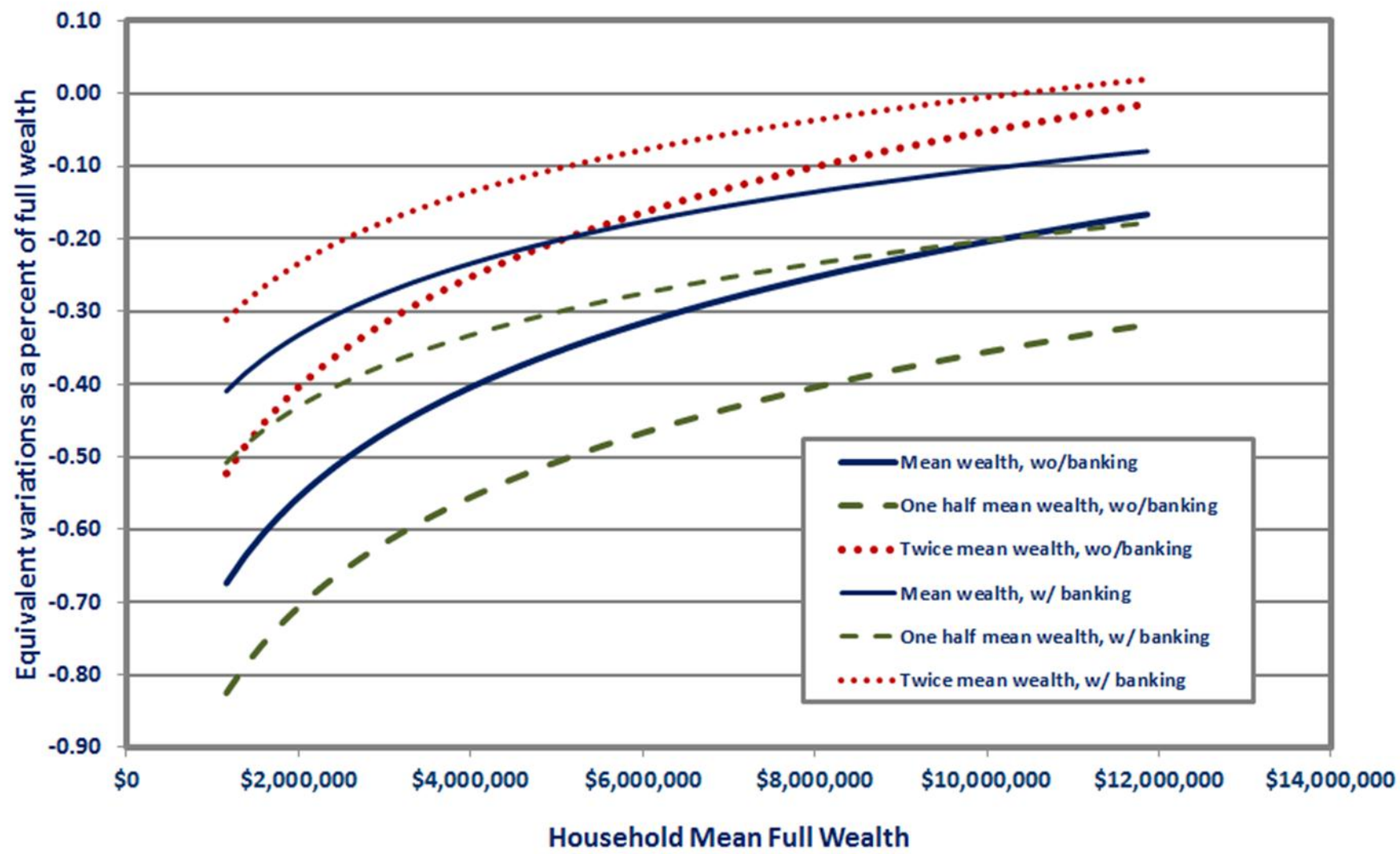
Household Welfare Effects by Region (At Mean Full Wealth)



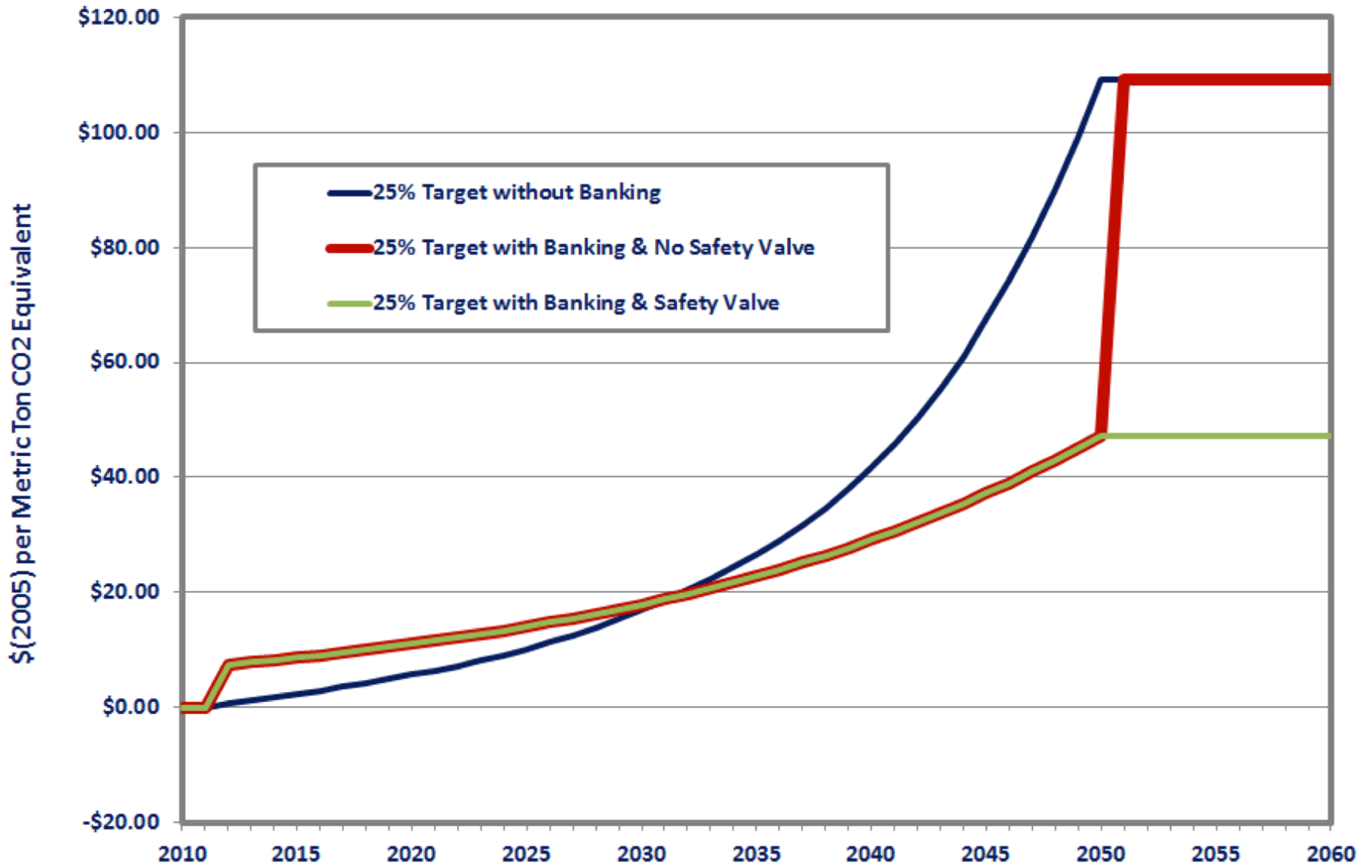
Household Welfare Effects by Gender & Race (At Mean Full Wealth)

Household Welfare Effects and Full Wealth

(25% Target , 244 Household Types)



Allowance Prices



AN ECONOMETRIC APPROACH TO GENERAL EQUILIBRIUM MODELING:

SUMMARY

Econometric Modeling of Producer Behavior:
Substitution and Technical Change

Rate and Bias; Autonomous and Induced Technical
Change

Econometric Modeling of Consumer Behavior:
Demand for Goods and Leisure Intertemporal
Allocation of Full Consumption

IGEM, Version 16: Controlling Emissions of
Greenhouse Gases

