

GTAP Endogenous Migration Model

by:

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Objectives and Motivations

- Impact of taxing income of skilled labor in exporting region.
- Increase tax base
- Expected outcome: Output tax on wages (skilled labor) will improve the welfare of both movers and non-movers in an exporting country.

The Model and Assumptions

- Focus is on endogenous migration of skilled labor force to move abroad due to reduction in their real income.
- Model set-up: labor can only be exported from SAfrica to three selected countries.
- Output tax is used as a proxy for income tax on skilled labor productivity.
- Shock output tax (to) from -16.42% to -32.00%.

Endogenous migration Equation

$$LF(i,r,s) = A(i, c, r) * \left\{ \frac{RWAGEI(i,c,r)}{RWAGEI(i,c,c)} \right\}^{ESUBMIG(i,r,s)}$$

Where,

$LF(i,r,s)$ = No. of migrants moving from region c to region r

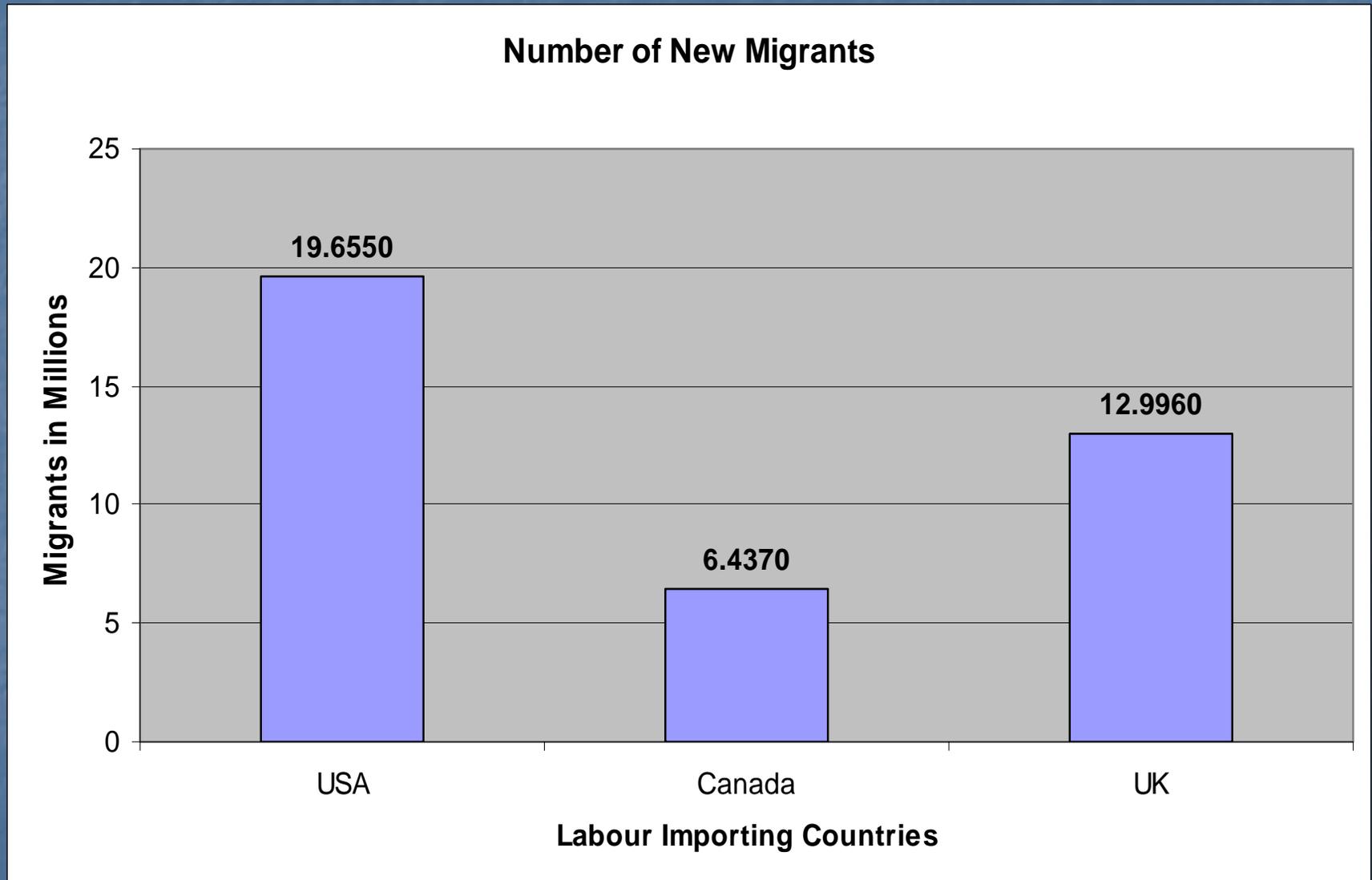
$A(i, c, r)$ = constant describing initial equilibrium

$RWAGEI(i,c,r)$ = real wage in labour importing region

$RWAGEI(i,c,c)$ = real wage in labour exporting region

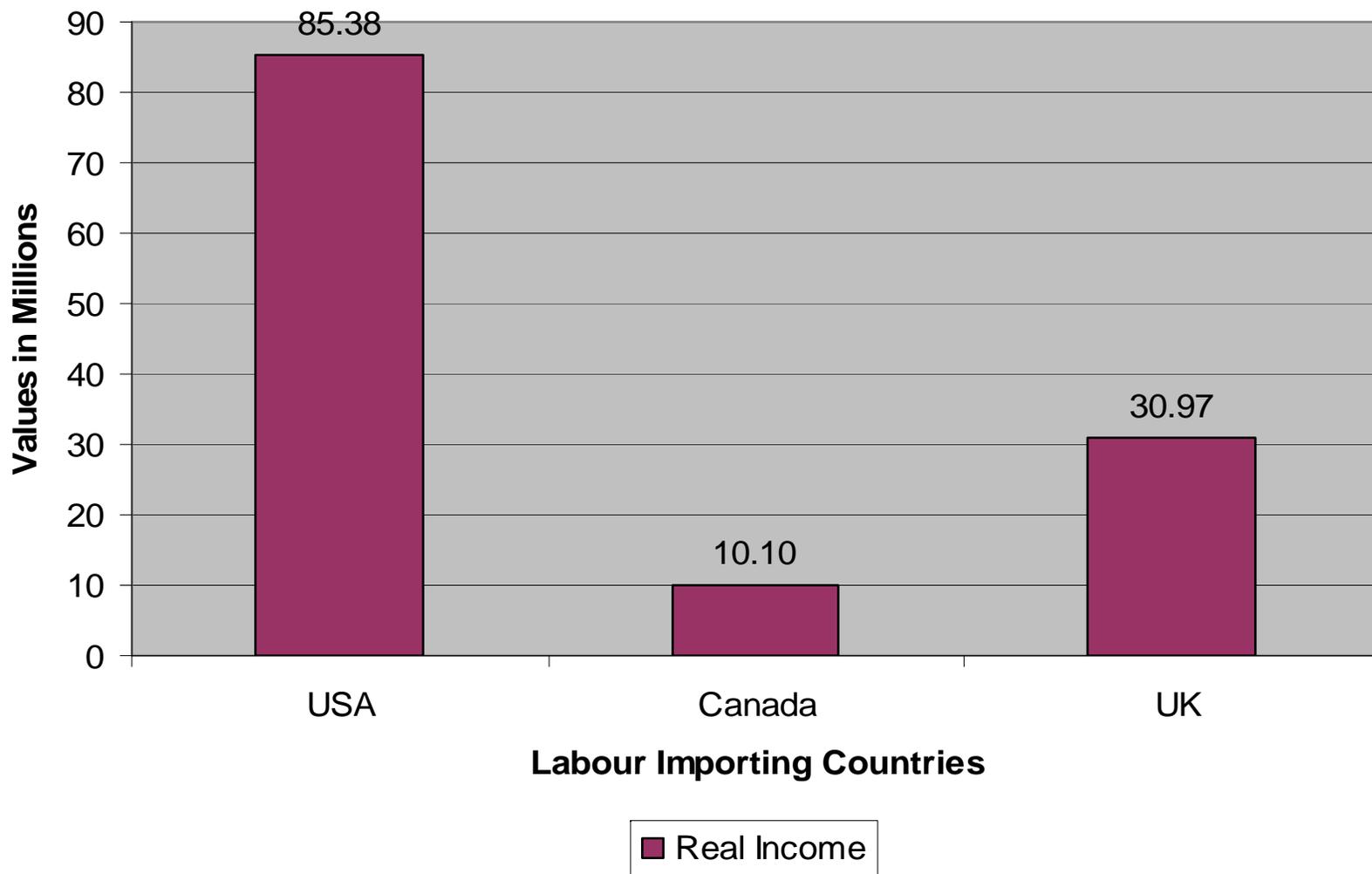
$ESUBMIG(i,r,s)$ = Parameter reflecting the extent to which migrants respond to differences in real wages

Results



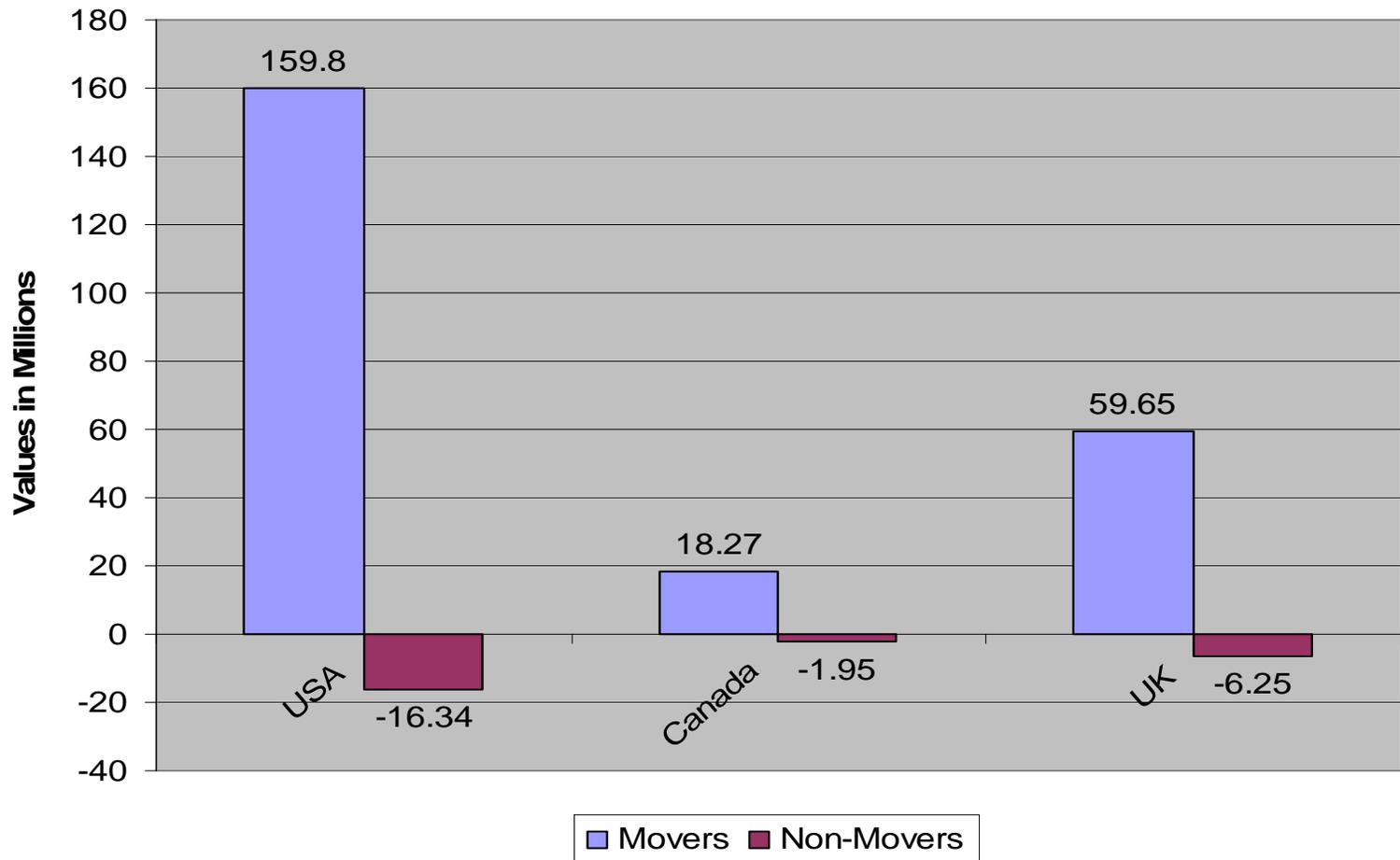
Results

Changes in Real Incomes of New Migrants



Results

Changes in Total Remittances of new Migrants and non-Movers



Results

Ratio of Return of Primary Factors to CPI [pfactreal(i,r)]:

	USA	Canada	UK
Land	0.04	0.06	0.11
Skilled labor	-0.02	-0.06	-0.05
Unskilled labor	0.01	0.01	0.01
Capital	0.01	0.01	0.02
NatRes	0.05	0.07	0.03

Summary

- Real income of skilled labor migrants improved.
- Total remittances increased.
- Income of non-movers in the host countries reduced due to influx of new migrants which reduces wage rates.