Human capital investment and population growth: 
An overlapping generations analysis for Malawi

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Abstract
Recent work on human capital accumulation has tended to abstract from population change. This is a reasonable simplification when analysing economies with relatively static populations, such as high income countries. However, many low income countries are undergoing rapid population change, which significantly influences the impact of human capital policies. This is acerbated as the rate of expansions of education systems is limited due to funding constraints and ability to train skilled teaching staff.

Modelling approach and methodology
To analyse this issue we construct an overlapping generations (OLG) numerical simulation model to simulate the simultaneous impact of human capital accumulation and population change. We calibrate this for Malawi, a small sub-Saharan country, which has made significant progress in expanding its education system, but is also projected to experience rapid population growth. Furthermore, there is evidence to suggest that demographics are not invariant of education policies.

Country: Malawi

Preliminary/expected results
In aggregate we expect expanding education to have a positive economic impact. On a per capita basis we expect education to have a positive impact, but population growth to dilute the per capita human capital accumulation. We are interested in exploring where the pivotal point is w.r.t. to the growth of GDP per capita how this compares to current projections for population and education growth in Malawi.

JEL Codes: O15; O22; E17; I25; F16.
Keywords: Human Capital; Economic Development; Higher Education; Labour Markets; Trade; Malawi.
1 Introduction

Recent work on human capital accumulation has tended to abstract from population change (Hermannsson et al 2014, Giesecke & Madden 2006). This is a reasonable simplification when analysing economies with relatively static populations, such as high income countries. However, many low income countries are undergoing rapid population change, which significantly influences the impact of human capital policies. This is acerbated as the rate of expansions of education systems is limited due to funding constraints and ability to train skilled teaching staff.

To analyse this issue we draw on microeconometric evidence to calibrate the change in human capital following an increase in the number of graduates in the labour market as a change in effective labour supply. An overlapping generations (OLG) numerical simulation model is constructed for Malawi, a small country in Sub-Saharan Africa. This is used to simulate the simultaneous impact of human capital accumulation and population change. Malawi is a small sub-Saharan country, which has made significant progress in expanding its education system, but is also projected to experience rapid population growth. Furthermore, Malawi is a good case study due to the availability of comprehensive information on returns to education in market employment and self-employment from the 2004/05 national household survey (Chirwa & Matia 2009, Matita & Chirwa 2009) and a 2004 Social Accounting Matrix (SAM)\(^1\).

So far this analysis has confirmed previous findings that in aggregate we expanding education has a positive economic impact. The next step in our work is to analyse this in the context of a rapidly growing population as we expect population growth to dilute the per capita human capital accumulation. We are interested in exploring where the pivotal point lies w.r.t. to the growth of GDP per capita how this compares to current projections for population and education growth in Malawi. Furthermore, we want to explore whether potential impacts of education on fertility can significantly change the macroeconomic outcome.

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\(^1\) The SAM was constructed by the World Bank and was generously released to use for use in this project. We are grateful for the assistance of Tim Gilbo the then head of the World Bank's Malawi office and the World Bank modelling team for their assistance.
The next section briefly summarises previous research. The third section illustrates the projection of the human capital stock. The fourth presents the OLG model. The fifth section presents and discusses the results. Brief conclusions and an outline of next steps in the research agenda are presented in the sixth section.

2 The wage premia as an indicator of labour productivity

An extensive microeconometric literature documents the rates of return to education at various levels of schooling, in different countries at different times. These studies reveal a clear association between education and wages, typically finding high returns in low income countries (see Psacharopoulous and Patrinos, 2004, for a survey). For example, recent estimates for Malawi finds that graduates earn approximately three times as much as those with primary qualifications (Chirwa & Matita, 2009, Table 3, p. 12).

Due to an inability to conduct controlled experiments in the field, verifying the causality between education and income is difficult. Interpreted in the spirit of the human capital school (Becker 1964, 1975 Mincer 1958, Schultz 1960) education directly increases human capital, which in turn increases the productivity of workers. An alternative view is motivated by the theory of signalling and screening (Arrow 1973, Spence 1973, Stiglitz 1975), which maintains that in extremis education does not enhance human capital (and as a consequence productivity), but simply serves the purpose of revealing innate ability to employers (for an overview see Brown & Sessions 2004). A range of statistical approaches have been applied to address this conundrum, such as utilising natural experiments (Krueger & Lindahl 2001, Card 2001) and controlling for fixed effects using twin samples (Bonjour et al 2003, McMahon 2009 Appendix A). The current consensus view is that education affects income per se but is not just a proxy for unobserved ability (Blundell et al 2005, Card 1999, 2001, Harmon & Walker 2003). There is likely to be some role for signalling, but of modest magnitude relative to overall impacts (Lange & Topel, 2006).

The current consensus is based on empirical evidence from high income countries. Estimating rates of return to education in terms of wages in formal employment may not be representative for low income countries. Therefore, several authors have instead examined the link between education and output in self-employment (Joliffe
2004, Soon 1987). Focussing on the self-employed has the added benefit of circumventing the influence of labour market signalling (Heywood & Wei 2004). Matita and Chirwa (2009) analyse the productivity of the self-employed by level of education for several occupations in Malawi, based on the 2004-05 integrated household survey (NSO, 2005). They find higher education to have the most modest impact for Maize growers, being on average 68% more productive than those with primary qualifications (Table 2, p. 15), while higher education has a more significant impact for tobacco growers, being 136% more productive than those with primary qualifications (Table 3, p. 16). The biggest impact is felt for enterprise earnings, where self-employed graduates earn more than 3 times that of those with primary school qualifications (Table 4, p. 18). Looking at the self-employed as a whole they find that on average self-employed graduates earn about 2.5 times that of those with primary qualifications. Conversely, for market employment graduates earn about 3 times that of those with primary qualifications. If the difference between the two estimates is interpreted as a signalling effect this would suggest the wage premia of graduates in market employment, overstates the productivity benefits of higher education by about 20%. This is bigger than typically found in high income countries (see Hermannsson et al (2013) for a discussion). However, as we shall demonstrate this is relatively small compared to other contingencies when it comes to simulating the macroeconomic impact of the labour productivity impacts of education.

If conducting a growth accounting exercise, an increase in the education adjusted labour supply would simply mean more inputs into the labour component of the production function, which in turn would suggest more output. Although this suggests a clear and intuitive causal mechanism, the approach rests on strong assumptions and is further undermined by weak and conflicting empirical findings. Macroeconomic studies based on cross country regression have provided mixed results on the macroeconomic impact of education and some authors are highly sceptical (Benhabib & Spiegel 1994). Sianesi & Van Reenen (2003) survey over 20 macro growth regressions and argue that overall these support the qualitative notion that human capital stimulates growth, but in light of methodological complications they urge caution in using results to quantify the magnitude of such links.

3 Human capital projection

The stock of human capital is calculated following a standard approach from growth accounting, where supply of labour at different skill levels is aggregated into a single stock of human capital, constructed as efficiency units of labour. Following Acemoglu & Autor (2012), for two types of labour unskilled (\(N\)) and skilled (\(H\)) the human capital stock in efficiency units can be presented as:

\[
Z = N + \frac{\omega_H}{\omega_N} H = N + \omega H
\]

where \(\omega_H\) is the wage of high skill workers, \(\omega_N\) is the wage of unskilled workers and \(w = \frac{w_H}{w_N}\) is the wage premia of high skill workers.

Population and human capital stocks are fixed, except for graduates from higher education, which enter the labour market at the rate of graduation exhibited by the higher education system in 2004. Every time period the oldest age cohort of workers retires. This contains a smaller share of tertiary graduates than the new cohorts and hence gradually over time the human capital stock expressed in efficiency units increases until it reaches a steady state where the number of tertiary graduates entering the labour market equals the number of those retiring.

On average there are 599 HE graduates in each age cohort. In 2004, 847 students completed an undergraduate degree from the University of Malawi. To simplify we assume all these graduates enter the labour market. In this sense the estimate is upward biased. Conversely, it is downward biased in the sense that the University of Malawi is not the only higher education institution in Malawi, although it hosted 73% of higher education students in 2008 (World Bank, 2010, Table 7.9, p. 171). Furthermore the analysis does not take into account recent growth in student numbers, but assumes status quo for simplicity.

The wage premia of skilled workers is obtained from Matita & Chirwa (2009), who examine the return to education among the self-employed. This avoids the ability bias (Card, 1999) that can afflict returns to education in market employment, as illustrated by signalling and screening models (Brown & Sessions, 2004). Returns to education in self-employment are found to be lower than those in market employment as reported in Chirwa & Matita (2009). The least skilled workers equal
one efficiency unit, whereas the wage premium of graduates with tertiary education makes them equivalent to 4.18 efficiency units. This indicates a significant productivity differential between the least skilled and the most skilled. However the base of tertiary skilled workers is very small (0.4%) so the overall impact is modest – a 0.25% long run increase in effective labour supply.

4 Model
Endogenous adjustments following an increase in the human capital stock are simulated using an Overlapping generations model. The OLG model presented in this paper has three institutional transactors, namely: firms, households and government. The model also incorporates two exogenous non-domestic transactors: the Rest of the Europe Union (REU) and the Rest of the World (ROW). This is a single country model which takes the price of goods imported from foreign markets to be fixed. Intermediate inputs, final and capital goods, and services can be imported from the Rest of Africa (ROA) and Rest of the World (ROW). Imported and domestic goods are considered as imperfect substitutes (Armington, 1969).

Our model does not incorporate uncertainty, therefore agents are assumed to correctly predict future events. The overlapping generations structure (OLG) is such that each cohort is assumed to have an economic life of 70 years, becoming active at age of 16 and dying at the age of 86. A time period is 10 years, so in any given period, there are 7 cohorts of different ages (16-25, 26-35, 36-45, 46-55, 56-65, 66-75 and 75-86). Individuals are assumed to fully retire at the age of 66.

4.1 Production structure
For each industry sector \( i = \{1...10\} \) the production structure is represented by a hierarchical CES function. At the higher nest, the gross output \( (X) \) is given by combining value-added \( (Y) \) with intermediate inputs \( (V) \). Value-added is then obtained from labour \( (L) \) and capital \( (K) \).

\[ V_{i,j} (i = j) \] can be produced locally \( (V_{i,j}^{L}) \) or imported from the ROA \( (V_{i,j}^{ROA}) \) and the ROW \( (V_{i,j}^{ROW}) \). Essentially, we mix regional and imported goods under the Armington trade assumption through a CES function. The three input CES function is then defined as
follow. We initially combine African inputs, $V_{i,j}^{RE}$ in a CES function over $V_{i,j}^{R}$ and $V_{i,j}^{E}$ and then substitution is allowed between $V_{i,j}^{RE}$ and $V_{i,j}^{W}$:

$$V_{i,j,t} = \gamma_{i,j} \left[ \delta_{i,j}^{W} (v_{i,j,t}^{W})^{\sigma} + (1 - \delta_{i,j}^{W}) \left( \delta_{i,t}^{R} (v_{i,t}^{R})^{\sigma_{RE}} + (1 - \delta_{i,j}^{R}) (v_{i,j,t}^{E})^{\sigma_{RE}} \right) \right]^{1/\sigma}$$

where $\gamma_{i,j}$ is a scale parameter while $\delta_{i,j}^{W}$ and $\delta_{i,j}^{R}$ are share parameters. Given $\varepsilon$ the elasticity of substitution, in the default case we assume $\frac{\varepsilon - 1}{\varepsilon} = \sigma = \sigma_{RE}$. Thus Eq. (4) collapses to a single nest. The demand function for regionally produced and imported intermediate inputs (from ROA and ROW) derives from the solution of a cost minimization problem. From first order conditions we have:

$$\frac{V_{i,j,t}^{W}}{V_{i,j,t}^{E}} = \left[ \left( \frac{\delta_{i,j}^{W}}{1 - \delta_{i,j}^{W}} \right) \cdot \left( \frac{p_{i,t}^{RE}}{p_{i,t}^{W}} \right) \right]^{1/\sigma}$$

$$\frac{V_{i,j,t}^{R}}{V_{i,j,t}^{E}} = \left[ \left( \frac{\delta_{i,j}^{R}}{1 - \delta_{i,j}^{R}} \right) \cdot \left( \frac{p_{i,t}^{R}}{p_{i,t}^{E}} \right) \right]^{1/\sigma_{RE}}$$

where $p_{i}^{R}$, $p_{i}^{E}$ and $p_{i}^{W}$ are the prices in the domestic, ROA, ROW markets respectively. While and $p_{i}^{RE}$ is a composite price defined as a CES combination between $p_{i}^{R}$ and $p_{i}^{E}$. Given that we are in a single country framework, $p_{i}^{E}$ and $p_{i}^{W}$ are fixed to their base year values.

Each industry produces goods and services that can be exported or sold in the domestic market. Domestic and foreign demand for goods and services are perfect substitutes. The foreign demand for Malawi goods ($F_{i,t}$) depends on the ratio between the fixed foreign price ($p_{f}$), the price of domestic output ($P_{X}$), and on the export price elasticity ($\eta$):

$$F_{i,t} = \frac{P_{e_{i,t}}}{P_{X_{i,t}}}^{\eta} \quad \eta \geq 0$$
4.2 Consumers

In this model, consumption is derived from the intertemporal optimising behaviour of forward-looking age cohorts under perfect foresight. The new generation enters into the model at the beginning of year \( g = t \) and exits at the end of year \( g + N \). While alive, consumers maximize the present value of utility, as summarized by the lifetime utility function:

\[
\max_{C_{g,t}} U_g(C_{g,t}) = \sum_{t=g}^{g+N} \left( \frac{1}{1 + \rho} \right)^{t-g} \left( \frac{C_{g,t}^{1-\theta}}{1 - \theta} \right)
\]

where \( C_{g,t} \) is the aggregate consumption of an individual of age group \( g \) at time \( t \), \( \rho \) is the rate of time preference and \( \theta \) is the constant elasticity of marginal utility. The dynamic budget constraint ensures that the discounted present value of consumption must not exceed total household wealth, \( W \):

\[
\sum_{t=g}^{g+N} u(t)p_{g,t}C_{g,t} \leq \sum_{t=g}^{g+N} W_{g,t}
\]

where \( p \) is the household's aggregate consumption price index and given \( r \) the interest rate, \( u(t) = \prod_t (1 + r)^{-1} \). From first order condition we obtain the time path of consumption:

\[
\frac{C_{g,t+g} - C_{g,t+g-1}}{\bar{C}_{g+1,t+g}} = \left[ \frac{(1 + \rho)p_{g,t+g-1}}{(1 + r_t)p_{g+1,t+g}} \right]^{(1/\theta)}
\]

The model distinguishes between financial wealth, \( FW_{g,t} \) and human wealth \( HW_{g,t} \), where \( W_{g,t} = FW_{g,t} + HW_{g,t} \). \( FW \) is accumulated through savings, whilst \( HW \) in each period accumulates through labour income.

Once the optimal path of consumption is obtained from the solution of the intertemporal problem, aggregate consumption, \( C_{g,t} \), is transformed within each period in sectoral consumption \( (Q_t) \) through a multilevel constant elasticity of
substitution (CES). A set of first order conditions determines the evolution of consumption over time for each commodity.

Households purchase goods and services in the local and foreign market. Local and imported goods are imperfect substitutes defined as nested CES Armington (1969) type equations similarly to the (4)-(6) system of equations.

4.3 Investors

Unlike other calibrated general equilibrium models where investments are savings driven, as we noted earlier, in our model we separate the investment decisions from savings decisions. This is based on the neoclassical growth model developed by Abel and Blanchard (1983).

The dynamic path of investment is the result of an intertemporal process that seeks to maximize the value of firms, \( VF \), defined as the present value of the firm’s cash flow given by profit \( \pi \) less investment expenditure \( J \), subject to the familiar capital accumulation equation (as in Devarajan and Go (1998), Go (1994), Hayashi (1982)) \( K_{i,t} = I_{i,t} + \delta K_{i,t} \), where \( \delta \) is the depreciation rate, and investment expenditure is subject to adjustment cost such that:

\[
J_{j,t} = Pk_t l_{j,t} \left( 1 - c - tk + \frac{\beta}{2} \frac{(l_{j,t} - \alpha)}{K_{j,t}} \right)
\]

where \( Pk \) is the replacement cost of capital, \( tk \) is the tax credit on investment, \( c \) is a calibrated parameter and \( \alpha \) and \( \beta \) are adjustment parameters. From first order conditions we obtained the accumulation rate (Eq. (7)) and the law of motion of the shadow price of capital, \( \lambda \) (Eq. (8)):

\[
\frac{l_{j,t}}{K_{j,t}} = \alpha + \frac{1}{\beta} \left[ \frac{\lambda_{j,t}}{Pk_t} - (1 - c - tk) \right]
\]

\[
\dot{\lambda}_{j,t} = \lambda_{j,t}(r_i + \delta) - rK_{j,t}(1 - tk) + Pkt \frac{\beta}{2} \frac{l_{j,t}}{K_{j,t}}^2
\]
where \( r_k \) is the rate of return to capital.

\( J \) is then transformed into investment by sector of origin (\( S \)) through the capital matrix \( KM \):

\[
S_{it} = \sum_j KM_{ij} J_{jt}
\]

Investment purchases of goods and services in the local and foreign market are then defined with nested CES Armington type equations similar to the (4)-(6) system.

### 4.4 Labour Market

The wage-setting in our model is determined via the bargained real wage function:

\[
\ln \left[ \frac{w_{g,t}}{cpi_t} \right] = v - \phi \ln u_{g,t} + \varphi g - \gamma g^2, \quad \phi, \varphi, \gamma \geq 0,
\]

where \( cpi, w \) and \( u \) are the consumer price index, the nominal wage and the unemployment rate respectively. \( \phi \) is the wage curve elasticity, whereas \( \varphi \) and \( \gamma \) are parameters chosen in order to ensure that the maximum wage is reached between mid-life and retirement.

### 4.5 Pension system

Individuals over the age of 66 no longer earn labour income. They receive retirement benefits (\( Z \)) that are defined in each \( t \) as a weighted average of their life time labour earnings:

\[
Z_{g_{mt}} = \frac{1}{\text{card}(g_w)} \Omega \sum_{g_w} L_y g_{w,t-g_m+g} \quad g_w = 1,2,3,4,5; \ g_m = 6,7
\]

\( \Omega \) is the replacement rate and \( L_y \) is the labour income. The pension system is modelled as a pay-as-you-go system where pension benefits are financed through
contribution rates ($\theta$) on wage earnings. The budget constraint of the pension system is defined as follow:

$$\sum_{gm} Z_{gm,t} Pp_{gm,t} = \theta_t \sum_{gw} L_y_{gw,t} \quad \forall t$$

where $Pp_{gm,t}$ is the population of generation $g$ at time $t$.

### 4.6 Government

The government taxes labour income ($\tau^L \sum_{gw} L_y_{gw,t}$) and capital income ($\tau^K \sum_{g} K_y_{gw,t}$), while government expenditure comprises current spending on goods and services ($G$), net transfer to households ($Tr_{g,t}$) and interest payment on debt ($D$).

The real government consumption of goods and services is fixed at the base year level. To satisfy the budget constraint, the government issues new bonds. The budget constraint of the government is:

$$D_t = rD_t + \sum_i p_{i,t} \tilde{G}_i + \sum_{g} Tr_{g,t} - \tau^K \sum_{gw} K_y_{gw,t} - \tau^L \sum_{gw} L_y_{gw,t}$$

### 4.7 Equilibrium

Given $X_{i,t}$ and $M_{i,t}$, the total output and import (from ROA and ROW) in each sector respectively, the total absorption equation provides equilibrium in the commodity market:

$$X_{i,t} + M_{i,t} = \sum_j V_{i,j,t} + G_{i,t} + Q_{i,t} + S_{i,t} + F_{i,t}$$

Eq. (16) is also sufficient to guarantee equilibrium in the payments account since money is not considered as a commodity. In the capital market, capital demand equals capital stock. Equilibrium in the labour market is achieved through changes in the unemployment rate as the wage rate is not determined by first order conditions. Equilibrium in the financial sector is reached by equating household financial wealth.
to total assets, internal and external. The wealth derived from asset holdings consists of $VF$, $D$ and $B$ (foreign assets).

We are not imposing balance of payment constraint assuming equilibrium between export and import of goods and services, however we allow for endogenous foreign savings given we are dealing with a country which is belong to a common currency area. Therefore the exchange rate is fixed and it serves as the numeraire.

The model is an applied and extended version of the skeletal model by Abel and Blanchard (1983). Investment decisions follow a Tobin’s $q$ adjustment (Tobin, 1969) and are separated from savings decisions. It has three sectors: Agriculture, Manufacturing and Services; and three domestic institutions: households, firms and government. The Rest of World (ROW) is considered exogenous and trade is price sensitive. Details of the model are presented in Appendix and model code can be supplied upon request. The model is calibrated on a 2004 Social Accounting Matrix (SAM). The simulation invokes a Harrod neutral productivity change, equal to the 0.25% increase in effective labour supply reported in the previous section (i.e. an increase of the coefficient $A$ in equation A6).

5 Preliminary Results

Table 1 shows the short-run and long-run impacts of human capital accumulation under fixed population assumptions. In the short run GDP increases slightly with respect to the initial steady-state. In this time frame, the increase in efficiency generates a reduction in employment reflecting fixed sectoral capital stocks in the first period. In this period, given fixed population, a fall in labour demand generates an increase in unemployment rate (0.03%) and a fall in real wage (-0.003%). Furthermore, the results of the model suggest an offsetting and an anticipated positive demand side effect generated by forward looking agents. In this time frame household consumption increases by 0.43% albeit employment is declining. Households have perfect knowledge of future events; therefore start consuming from the start, pushing up nominal wage and the CPI.

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3 The SAM was constructed by the World Bank and was generously released for use in this project. We are grateful for the assistance of Tim Gilbo the then head of the World Bank’s Malawi office and the World Bank modelling team for their assistance.
In the long run the reduction in the cost per efficiency unit of labour stimulates economic activity through its impact on commodity prices, and this in turn stimulates the demand for both labour and capital services. The downward pressure on prices further provides a positive stimulus to consumption and investment. The long-run reduction in prices (see for example the change in CPI) stimulates exports to the Rest of Word (ROW).

Table 1. Short run (SR) and long run (LR), %-change from base year.

<table>
<thead>
<tr>
<th></th>
<th>SR</th>
<th>LR</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP Income measure</td>
<td>0.10</td>
<td>0.38</td>
</tr>
<tr>
<td>Consumer Price Index</td>
<td>0.39</td>
<td>-0.23</td>
</tr>
<tr>
<td>Unemployment Rate</td>
<td>0.03</td>
<td>-0.11</td>
</tr>
<tr>
<td>Total Employment</td>
<td>-0.04</td>
<td>0.11</td>
</tr>
<tr>
<td>Nominal Gross Wage</td>
<td>0.39</td>
<td>-0.22</td>
</tr>
<tr>
<td>Real Gross Wage</td>
<td>0.00</td>
<td>0.01</td>
</tr>
<tr>
<td>User Cost of Capital</td>
<td>0.43</td>
<td>-0.20</td>
</tr>
<tr>
<td>Population</td>
<td>Eps</td>
<td>Eps</td>
</tr>
<tr>
<td>Households Consumption</td>
<td>0.43</td>
<td>0.28</td>
</tr>
<tr>
<td>Capital Stock</td>
<td>Eps</td>
<td>0.36</td>
</tr>
<tr>
<td>Export</td>
<td>-0.71</td>
<td>0.43</td>
</tr>
</tbody>
</table>

The results in Table 1 show that competitiveness effects are a key element in realising the macroeconomic impact of human capital. The time path of this adjustment is illustrated in Figure 1 which reports the period by period percentage change in GDP and employment.
6 Preliminary conclusions and next steps

This paper analyses the macroeconomic impact of human capital accumulation in the context of population changes, as is typical for many low income countries. So far we have macroeconomic impact of human capital accumulation under a fixed population assumption. As these results reveal the improving skill level of the population can improve aggregate economic activity, provided that exports are price sensitive so that export sales respond positively to this boost in competitiveness. As our analysis of the human capital stock reveal, the share of secondary and tertiary educated in the population is very low. Hence the per capita impacts of this boost are likely to be small and further reduced if the size of the unskilled population is growing at the same time.

The next step in this analysis is to analyse the impact of increasing human capital accumulation while allowing for population growth. Furthermore, we want to explore how expansion of education (in particular secondary education of women) could
influence population growth and how this modifies the impact of human capital policies.

Hitherto our analysis has been based on an assumption of a unified labour market. That is, all workers are qualitatively the same but simply differ in the amount of human capital they possess. However, many trade modellers (e.g. Boughesa & Riezman, 2007) argue that workers are qualitatively different and a minimum amount of skill is required for exporting sectors. It would be useful to explore these approaches and compare with our current labour market setup.
References


