

ECONOMIC AND PRIVATE SECTOR

PROFESSIONAL EVIDENCE AND APPLIED KNOWLEDGE SERVICES

HELPDESK REQUEST

Economic costs of discrimination

Theoretical basis and key drivers

Chris Hearle

Oxford Policy Management

February 2017

EPS-PEAKS is a consortium of organisations that provides Economics and Private Sector Professional Evidence and Applied Knowledge Services to the DfID. The core services include:

- 1) Helpdesk
- 2) Document library
- 3) Information on training and e-learning opportunities
- 4) Topic guides
- 5) Structured professional development sessions
- 6) E-Bulletin

To find out more or access EPS-PEAKS services or feedback on this or other output, visit the EPS-PEAKS community on <http://partnerplatform.org/eps-peaks> or contact Alberto Lemma, Knowledge Manager, EPS-PEAKS core services at a.lemma@odi.org.uk.

Disclaimer Statement:

The views presented in this paper are those of the authors and do not necessarily represent the views of Consortium partner organisations, DFID or the UK Government. The authors take full responsibility for any errors or omissions contained in this report.

Contents

Abbreviations		v
1	Introduction/Overview	1
2	Becker's "Taste" Discrimination Model	3
2.1	Employer taste discrimination model	4
2.2	Other types of taste discrimination models	8
3	Statistical discrimination	10
4	Types of Discrimination	13
4.1	Lesbian, Gay, Bisexual, Trans* and related communities (LGBT+) People	13
4.2	People Living with Disabilities (PLWD)	18
4.3	Gender	25
5	Conclusion	30
References	32	

Abbreviations

DFID	Department for International Development
GDP	Gross Domestic Product
LGBT+	Lesbian, Gay, Bisexual and Trans* and related communities
LMIC	Lower-Middle Income Country
OPM	Oxford Policy Management
PLWD	People Living with Disabilities

1 Introduction/Overview

Query: What does the available literature suggest regarding the theoretical basis and key drivers for the economic costs of discrimination?

Prejudice—a prejudgment or assumption made about someone without the adequate knowledge to do so with guaranteed accuracy—has ubiquitously and stubbornly characterised societies around the world, and can result in discrimination from one group to another. Inequitable power differences characterise the relationship between dominant and minority groups, reifying individual behaviours into structural differences. Dominant groups threatened by the perceived loss of power, exercise social, economic and political strength against oppressed groups to retain privilege and maintain social advantage. By discriminating against minority groups, dominant groups are able to enhance their sense of self-worth and importance while the victims often feel anger, sadness and shame at their unfair treatment.

One type of discrimination is economic, which has long been recognised as a cause of income inequality among families and of wage inequality among workers. Arrow (1973) defines economic discrimination as the valuation in the market place of personal characteristics of the worker that are unrelated to worker productivity. Similarly, Aigner and Cain (1972) define it as when workers receive pay or remuneration commensurate with their productivity—when, in short, equal productivity is not rewarded with equal pay. In this way, most authors investigate competitive forms of economic discrimination (see Table 1). The concept of economic discrimination has theoretical importance because it challenges a fundamental principle of the workings of competitive economies: that equally productive workers should receive equal wages (Cain 1984).

Table 1: Types of Economic Discrimination

	Competitive	Collective
Definition	Individual maximising behaviour that may include discrimination e.g. taste-based, statistical.	Groups act collectively against each other, evident when the average wage of a group is not proportional to its average productivity

Within economic discrimination, labour market discrimination has been a particular concern because labour earnings are by far the most important source of income that people can obtain from their own resources. Discrimination occurs in the form of wage or nonwage discrimination in such areas as hiring, retention, training and promotion. Much of the economic discrimination literature has focused on competitive labour market discrimination, specifically on wage discrimination, with the assumption of perfectly competitive firms that seek to maximise profit (see Table 1). If equally productive workers are systematically paid unequal wages, the workings of the labour market is inefficient and inequitable (Cain 1984).¹

In the first section of this paper I will analyse the key competitive economic discrimination models which largely focus on labour markets, namely taste-based and statistical models. For taste-based models, I mainly concentrate on Becker's "employers taste" model, but also touch upon discrimination by co-workers and customers. I also discuss how discrimination can decrease when there is a quest to maximise profit, and draw upon

¹ A condition may be said to be economically inefficient if the economy's output (or income) is less than it would be if that condition were eliminated, which implies that the costs of eliminating it are more than offset by the increased output that would result.

authors who modify Becker's initial work. I contrast this work to that of statistical discrimination theory, which looks at easily observable characteristics to infer the profitability of applicants. Again, discrimination might erode in the long term due to technological advances and when firms learn from their mistakes.

The second part of this review looks at literature with the sub-fields of Lesbian, Gay, Bisexual and Trans* (LGBT+) people, People Living with Disabilities (PLwD) and women. I map the various pathways for how discrimination has economic outcomes, and analyse the main theories found in the literature. This report does draw on any empirical evidence to substantiate theoretical claims that are made. This is outside the scope of the review and the author recommends that a separate Helpdesk Inquiry is carried out for this. Main assumptions are listed, but are not exhaustive.

2 Becker's "Taste" Discrimination Model

Before the pioneering work of Gary Becker, most neoliberal economists did not think racial discrimination was economics. Under the standard assumption of rationality essential to all their models discrimination cannot exist because it is irrational. Therefore labour market discrimination was solely seen as a social and psychological matter. However, since the publication of Becker's work, discrimination has been one of the most intensely studied topics in economics (Charles and Guryan 2007, Charles and Guryan 2008).

Using a rational individual, utility maximising model in a perfectly competitive environment, Becker framed racial prejudice among whites and racial discrimination against blacks within a market context. His model used the economic notion of an equilibrium—a point at which individuals both act in their interests and interact with one another, making the assumption that black men and white men are perfect substitutes in production. In this way, he was able to illustrate standard features of economics while applying them to the questions of why wage differentials exist and persist between races.

Becker developed the idea that some workers, employers or customers do not want to work with or come into contact with members of other racial groups (usually blacks) or with women (Becker 1971).² No explanation is given as to why this prejudice exists, rather it is assumed that there is a 'taste' or preference against people from disadvantaged groups; this taste is treated in the same way that economists would analyse individual prejudices between goods and services. A 'taste' for discrimination implies that discriminators are willing to pay a price to discriminate (England and Lewin 1989). In a series of models, he analysed the effect of the possession of such preferences among customers, co-workers and employers on black relative wages.

It is important to consider Becker's positionality and the era in which he undertook his work (1950s and 1960s), which has shaped his work on the economics of discrimination. In framing discrimination as whites distaste for working with blacks, Becker is arguably betraying his own identity as a white, able-bodied and heterosexual male from a western country. There is little consideration for how blacks would need higher wages for working with whites. This assumption may have held when Becker formulated the model, where white males dominated senior management and leadership positions with influence on who and who is not recruited. However, in today's world which is more diverse and with laws to protect against discrimination, blacks (or other discriminated groups) have agency to take legal proceedings against employers to offer lower wages than more privileged groups. They also have the power to find companies or organisations that are more diverse and offer equal opportunities. These dynamics were less considered in Becker's simplistic economic model.

One issue that has not been much studied by Becker and subsequent authors is the implications of discrimination for economic efficiency, as measured by the size of total societal income. The neoclassical economist's convention to take tastes—individual preferences—as given, virtually prevents the translation of 'different prices (wages) for the same good (labour)' into a loss in total societal income, or deadweight loss. The impact of discrimination on economic growth is somewhat covered in Section 4.

² Becker focuses almost exclusively on documenting differential labour market experiences of black and white men, because they argue that differences in the patterns of participation between black and white women make analysis difficult. Nonparticipation among prime-age males is concentrated among low-skilled workers regardless of race. The same is not true for women (Williams 2015).

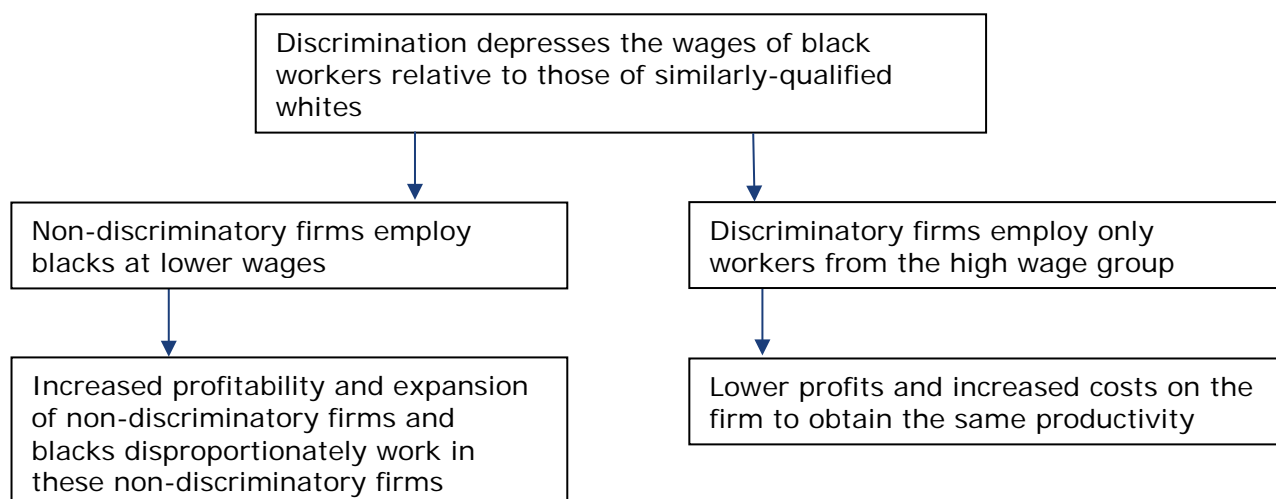
2.1 Employer taste discrimination model

Assumptions

- Perfectly competitive markets
- Employers are white
- No legal restrictions limiting discrimination in the workplace
- Blacks do not need higher wages for working with white employers
- Blacks have no objections to working for white employers
- Workers and firms meet randomly
- Firm owners are also the managers
- Black people in the minority in the ownership of labour and capital
- White employers or other economic agents are prejudiced against blacks and are willing to pay to avoid contact with blacks
- Employers dislike for employing blacks sets a lower market wage for blacks
- Black men and white men are perfect substitutes in the workplace and are equally productive
- There are sufficient employers who have no aversion to hiring blacks
- Prejudice is not portable across different labour market roles
- Utility in the alternative job depends solely on the wage the person receives in that job.
- Constant returns to scale
- Perfect information about the types of employers and whether they are prejudice

The 'employer taste' discrimination model is the model that is most widely cited and discussed in the literature. The 'employer taste' model provides an explanation of wage discrimination- equally productive workers being paid different wages.³ Suppose that an employer does not want to employ members of a particular group (blacks is used as the example) even though these workers are as productive as any others. This decreases the wages given to black workers. This results in a decision to be made by firms: there is the option of hiring blacks at lower wages, or only employing whites even though this is more costly (see Figure 1). This theory relies on strong discriminatory 'tastes' in assuming that employers or other economic agents are willing to pay to avoid contact with blacks (Lang and Lehman 2012), and the assumption that there are no legal restrictions limiting discrimination in the workplace.

³ Non-wage discrimination is not covered by this model.

Figure 1: Becker's taste discrimination model

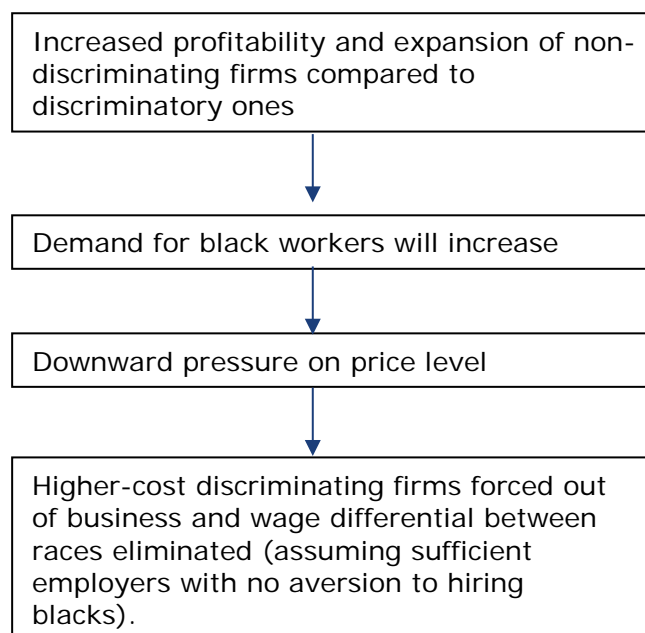
There are two costs of discrimination: the black worker is paid less, and the discriminating employer incurs greater expense to obtain the same productivity. Figure 1 shows that market pressures cause blacks to be hired by the least prejudiced employers and to sort away from those with highest levels of prejudice. The model shows that market forces tend to separate the bigots from the victims of their bigotry, separating the groups to avoid the costs of contact (Harford 2014). In equilibrium, Becker shows that black relative wages are determined by the most prejudiced employer with whom they come into contact—the marginal discriminator. Racial wage gaps, in Becker's formulation, are determined by the prejudice of this marginal person, and not by the average level of prejudice among all employers (Charles and Guryan 2008).

Two things matter in this model: firstly the number of black workers—the more black workers there were, the broader the base of employers needed to hire them in equilibrium (Harford 2014). When the black population is large and white racism widespread, segregation in the labour market will be difficult to achieve and wage differentials will persist (Lang and Lehmann 2012). Holding constant the distribution of employer prejudice, an increase in the number of black workers means that blacks will, in equilibrium, have to be sorted to ever more prejudiced employers, so that the marginal employer is ever more prejudiced (Charles and Guryan 2007). Secondly, an increase in employer prejudice is more subtle, and depends on where in the distribution of prejudice that increase comes from. Since market pressures sort blacks to the least prejudiced employers first, holding constant the number of blacks and increasing the prejudice of the most prejudiced employers in the market should not affect who the marginal employer is, and thus should not affect the equilibrium wage gap. On the other hand, an increase in the prejudice of the least prejudiced employers while holding the number of black workers may make the marginal employer more prejudiced, and thus increase the equilibrium wage gap. To have an impact on minority wages, bigotry would have to be widespread—otherwise unprejudiced companies would simply hire all the minority workers (Harford 2014).

Becker acknowledged a strange feature of his model, famously articulated by Arrow (1972, 1973): because prejudiced employers sacrifice profits by discriminating, the theory "predicts the absence of the phenomenon it was designed to explain" (Arrow 1972 p. 192).

Since capital can move freely in the long run under perfect competition, in the long run, prejudiced firms are driven out of the market and racial wage gaps deriving from employer prejudice disappear (see Figure 2). Thus segregation is a mechanism for eliminating discrimination in competitive markets. Discrimination can persist only if there are factors which limit the amount of competition in the labour market or in the product market. As Arrow emphasises and demonstrates, employer discrimination could result in a sustained wage difference only if no employers could be found who were non-discriminatory (Cain 1984).

Figure 2: Elimination of Discrimination in Becker's model



Notes: This diagram assumes that markets are competitive; if there are substantial barriers to entry which make it difficult for new firms to enter the market, competition will not erode discrimination.

In contrast to the long-run prediction that discrimination will disappear, empirical work has found that a wage gap between white males and other groups in the market has persisted. Various explanations have been given for this. Firstly Black (1995), in a random search model (see Box 1), shows that wage gaps resulting from prejudice can persist if there is a costly search rather than the full information of the competitive model. He argues that with prejudiced employers in the market, minorities face a lower probability of finding a position that dominates their current offer, lower their reservation wage—the minimum wage for which they are willing to change jobs for. Because of this lower reservation wage, minorities are willing to accept an offer with a lower wage, which provides all employers (not just prejudiced employers) an incentive to offer lower wages to minorities.

Secondly, Lang et. al. (2005), in a directed search model (see Box 1), formulate a model whereby employers find black workers slightly less desirable than white workers; these differences are small, but are sufficient to ensure that employers will choose a white worker if both a white and black worker apply for the same job. As a result, black workers want to avoid the cost of applying to firms that are likely to receive applications from whites, and thus apply to firms with wage offers that are low enough to discourage white applicants. In equilibrium, black and whites are employed by different firms, and blacks receive lower wages.

Box 1: Difference between random search and directed search models

An emerging area of work into taste-based theories of discrimination is introducing imperfect information about the location of vacancies, workers and customers or about the type of agents and whether or not they are prejudiced. The importance of search costs is amplified by the fact that most workers go through a series of jobs within a firm in which they work and a series of occupations over their working life. These may jobs involve contact with many different employees and different levels of customer exposure (Altonji and Blank 1999).

Two models for this are random search and discrimination with directed search (see Lang and Lehmann 2012). In random search models in which workers sequentially search for a job, the worker will accept a job or wage offer if the expected value of that offer is greater than or equal to the expected value of an additional search. More specifically, because some firms either refuse to hire certain groups of workers or are only willing to hire them at a reduced wage, workers who are prejudiced against face lower probabilities of finding a position that will dominate their current offer. Therefore, because search is costly and time-consuming, these workers facing prejudice are willing to accept a job offer with a lower wage and/or match quality which provides all employers (not just the prejudiced ones) with the incentive to offer lower wages to members of the group subject to employer prejudice.

In contrast, directed search does not assume that workers and firms meet randomly. Instead, workers and firms optimally search for or avoid certain types of employers and workers given market conditions. For example, blacks would prefer to apply to jobs to which whites are unlikely to apply, because they know they will lose out to any whites with whom they compete for a particular job. In contrast, whites do not care about black competitors.

Thirdly, Goldberg (1982) models racial sentiment slightly differently than Becker, representing it not as a distaste for blacks but instead as nepotism, or favouritism toward whites. He shows that the racial wage gaps, attributable to that type of prejudice, can survive in the long run.

Lastly, Charles and Guryan (2007) show theoretically that the relationship between racial distaste and wage gaps can even survive perfect competition. They argue that a prejudiced employer has two options in the long run. On the one hand, he can remain in business and express his racial prejudices by paying more in wage costs to hire an all-white workforce. As the standard criticism says, the choice involves a loss in money profit.⁴ On the other hand, the prejudiced employer can shut down and become a worker at another (possibly unprejudiced) firm, and would have to interact with that firm's black workers as a fellow employee. Charles and Guryan, through their model, assume that agents take their prejudice against interacting with blacks across the different roles they play in the labour market—that the prejudiced employer becomes a prejudiced employee after shutting down his firm. This is in contrast to Becker who viewed prejudice as not being portable across the different labour market roles.

Under this new assumption, it does not necessarily follow that prejudiced employers shut down in the long run. Prejudiced employers must consider both the monetary returns and the racial composition of their outside option. Thus the equilibrium racial composition of firms and the ability of the market to segregate workers are key factors in determining whether prejudiced individuals remain as employers. If agents are assumed to have the same level of racial prejudice irrespective of the labour market role that they play, every person who is a prejudiced employer in the short run will shut down in the long run only so long as the market is sufficiently segregated by race that each can be assured of finding

⁴ I use "he" in this instance to mirror the language used in the original article.

employment as a worker in a firm in which no blacks are employed. Assuming racial prejudice is portable across labour market roles combines two types of prejudice models—employer and employee prejudice—which Becker formally analysed in distinct models.

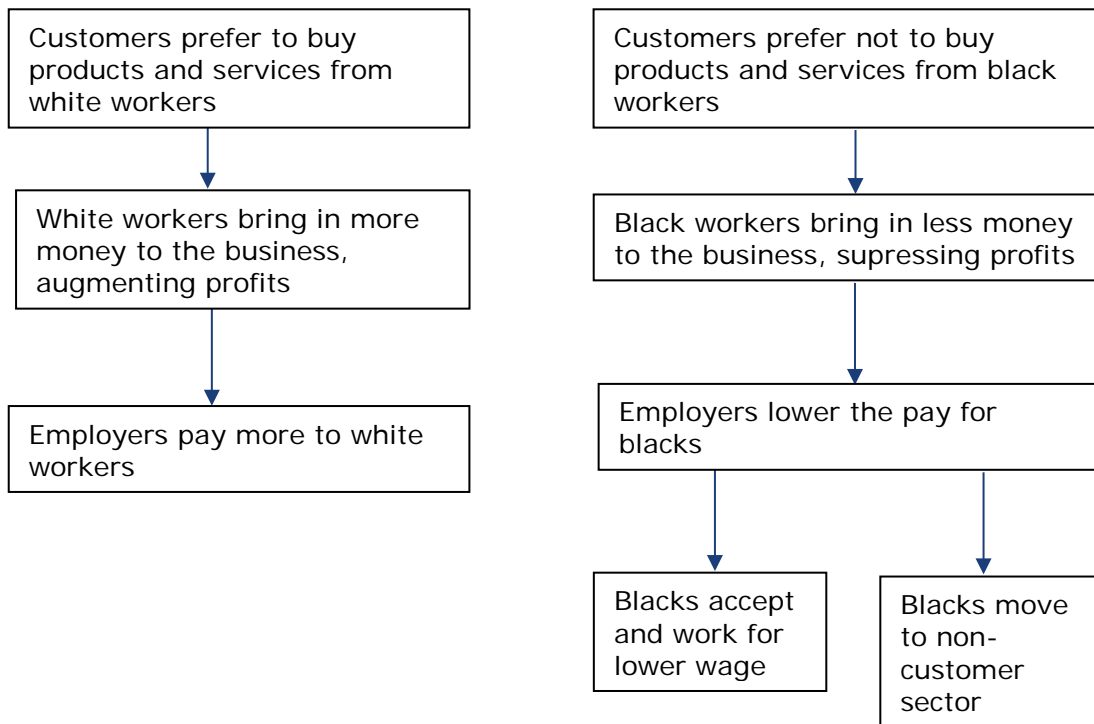
2.2 Other types of taste discrimination models

Assumptions

- Black workers have the same distribution of productive skills as white workers.
- Significant physical customer contact in the selling of goods and services on the market
- White workers are prejudiced against black co-workers and demand a premium to work alongside them.
- White customers use services from firms less if they have to interact with a black worker
- Consumers are willing to pay a price for a good produced by white workers
- Perfect information about workers and customers and whether they are prejudiced or not
- Whites are the racial majority and blacks are the racial minority

Less discussed in the theoretical literature are discrimination by employees and customers, who are arguably far more important sources of market discrimination than employers. Discrimination by co-workers include supervisors and supervisees as well as lateral co-workers. If white workers discriminate against black workers by acting as if they require a higher wage to work with black workers, then the labour force will become segregated by race, but there should be no wage differential by ethnicity for equally productive workers (Cain 1984). Arrow (1998) sees this as resulting in racial segregation within industries (firms with either all black or all white labour forces) but not segregation by occupation. White male workers may require a higher wage to work with women or blacks, or they may lower their productivity by various forms of sabotage when employers hire women or blacks into 'their' jobs (Bergmann and Darity 1981 in England and Lewin 1989).

Customer discrimination is different from these forms of prejudice, because an employer that pays more money to the types of workers whom customers prefer is likely to be rewarded by the market. Consumers perceive white and black workers as producing different products and different products can command different prices. Competitive forces are highly unlikely to eliminate customer-based discrimination (Kahn 1991, Kahn 2012). England and Lewin (1989) expect this form of discrimination to be less widespread, being concentrated only in service firms where employees meet customers. The outcome is that black workers would specialise in the production of goods with no customer contact and, in doing so, avoid being paid a wage lower than that of an equally productive white worker, which would be the outcome if they competed with whites in retail selling for example, where there is customer contact (Cain 1984). Figure 3 shows the theoretical pathways for customer discrimination.

Figure 3: Pathways for Customer Discrimination

The author could not find any models that consider a taste for non-discrimination or for where there is overt positive discrimination. Yet, for example, recent events in the United States suggest that companies are aware of their social responsibility and will act in response to political affairs. Uber who faced criticism in January 2017 that it undermined an Anti-Trump taxi strike at New York's JFK airport, competitor Lyft announced that the company was donated USD1 million to the American Civil Liberties Union. As a result, Lyft's downloads surpassed Ubers for the first time ever. Similarly, the Starbucks CEO Howard Schultz wrote an open letter to staff committing to hiring 10,000 refugees and Airbnb's Brian Chesky reported that it was providing free accommodation to anyone not allowed in the US (Holder 2017). These recent moves by companies suggest that these theories of economic discrimination mentioned so far in this report are out-of-date and need to consider a taste for non-discrimination.

3 Statistical discrimination

Assumptions

- That the employer knows the identity of the applicant (racial, gender, disability status etc).
- Imperfect information about the skills and the expected productivity of job applicants.
- No affirmative action policies that change the profitability of hiring workers from different groups
- Competitive pressures force employers to use the information at their disposal efficiently.
- In the long run, firms learn from their mistakes and form correct expectations.
- Women and racial minorities have less human capital upon entering the labour force and that they will progress to a lesser degree in their career (due to discrimination or otherwise).
- The average level of human capital investment, and thus productivity, differs between men and women/racial majority and racial minority and this is reflected in the average earnings differential.
- Employers pay workers according to their expected productivity
- Observable personal characteristics such as years of education, previous work experience and performance at job interview are equal between two candidates
- Two theoretically identical group distributions, including average and variance
- Individuals' group identities are exogenous and are unable to change
- Firms are risk neutral and maximise expected profits
- Employers are rational, information-seeking profit maximizers.

Taste based discrimination are neoclassical models which were constructed on the basis of complete information. In practice, the variables cannot be known with certainty. The theory of statistical discrimination is based on this uncertainty and for this reason has some initial appeal, being particularly relevant for young workers with little labour market history (Altonji and Blank 1999). The key economists that developed models of statistical discrimination are Phelps (1972), Arrow (1973) and Aigner and Cain (1977).

Statistical discrimination is a market-based explanation which does not require tastes for discrimination. The premise of statistical discrimination is that firms have imperfect information about the skills of job applicants. This is because neither the screening nor the signalling process is perfect and information about talents, skills and abilities are costly. This gives them an incentive to use easily observable characteristics such as race or gender to infer productivity of applicants, if these characteristics are correlated with productivity (Phelps 1972, Lunberg and Starz 1997).

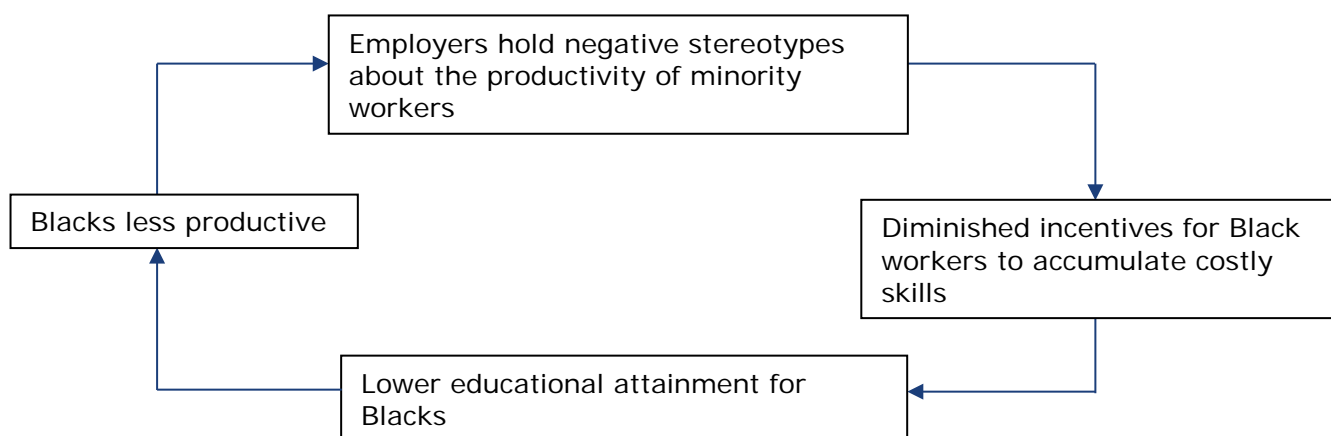
This type of preferential treatment is labelled "statistical" because stereotypes may be based on the discriminated group's average behaviour. The decision-maker in statistical discrimination theory is considered to be a rational, information-seeking profit maximizer. For example, employers believe from past experience that young female workers have less labour market attachment than men, perhaps because of a higher propensity to engage in child rearing. Therefore, they will be reluctant to invest in specific human capital formation of women, even if women are equally qualified as men. The employers' inability to observe individual's true labour market attachment forces them to rely on the group

average. Where minority groups have stereotypes that employers may value more, such as being hard working or intelligent, then they will receive preferential treatment.

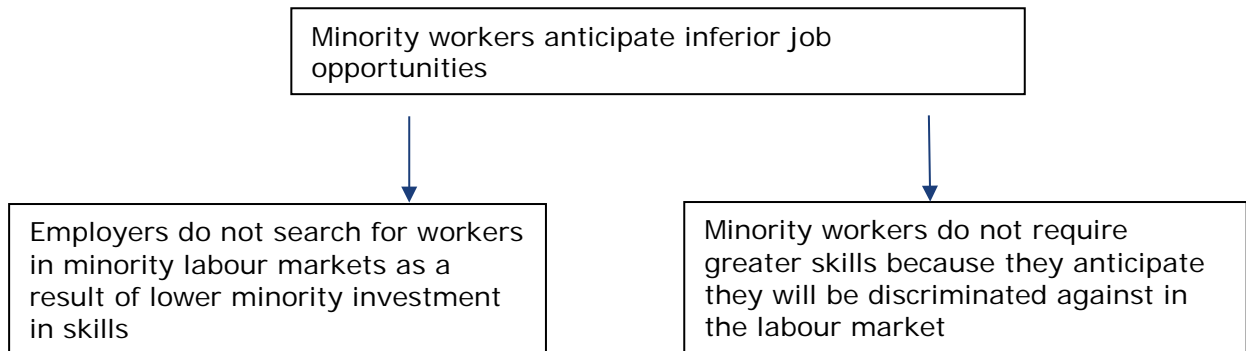
Unlike taste discrimination, it is pecuniarily rational for employers to engage in statistical discrimination if the costs of the error it creates in predicting individuals' productivity are less than the expense of developing and administering screening instruments with greater predictive power. Because of these kinds of costs, it appears at first glance that there is no pecuniary advantage of ceasing statistical discrimination, and thus discrimination may endure even in competitive markets (England and Lewin 1989). Whilst it is illegal to make hiring, pay or promotion decisions on the basis of race or gender, such behaviour is hard to detect in many circumstances which allows for its endurance (Altonji and Blank 1999).

There is another strand in the statistical discrimination literature that concerns the consequences of group differences in the *precision* of the information that employers have about individual productivity (see Altonji and Blank 1999). Suppose that the true productivity of a specified group of workers is difficult for firms to discern, perhaps because of cultural differences. Firstly, to the extent that productivity depends on the quality of the match between the skills of the worker and the requirements of the job, expected productivity will be lower for groups about whom the firm is more uncertain. Phelps (1972) suggested that employers have greater difficulty assessing the productivity of black workers than of white workers and therefore treat individual black workers more like the black average. The theory argues that it is costly to determine the predicted productivity of a minority group compared to those with similar backgrounds to the employer. In a context of discrimination in education, housing and other areas outside the labour market (see Lang and Lehman 2012), this implied that most blacks would receive low wages. But subsequent work in this area typically assumed that blacks and whites would be similar in the absence of labour market discrimination. Aigner and Cain (1977) formalised Phelps using a model in which an imperfect signal of the worker's productivity is noisier for black than for white workers, but in their model, this does not produce differences in the average wages of blacks and whites.

Figure 4: Self-confirming discrimination and disadvantage against minority workers



Source: Adapted from Loury (1992) and Coate and Loury (1993)

Figure 5: Self-confirming discrimination and disadvantage against minority workers

Source: Mailath et. al. (2000)

Secondly, the wages of the discriminated group (e.g. blacks) may be less responsive to performance because firms have difficulty “seeing” their productivity. This would weaken the incentives of blacks to invest in skills and can lead to an equilibrium in which group members are less productive on average than whites even if the two groups have the same discrimination of innate ability. In this way statistical judgements will be confirmed. Two theoretical pathways for this are pictured in Figure 4 and Figure 5.

If we consider the incentives for employers to improve the knowledge or technology underlying the screening devices, we see how such statistical discrimination might erode. If employers develop new techniques of testing, interviewing or evaluating work records that have greater predictive power than statistical discrimination, they benefit in two ways. First, a more productive work force is hired, the benefits of which might exceed the cost of the new screening devices. Second, the new screening devices allow an employer to hire those whom others discriminate against but whose productivities are above average for their race or sex. These persons can be hired for relatively low wages since their labour has been cheapened by other employers’ statistical discrimination. The advantage of finding more sensitive screening instruments than sex or race will lead those who do so to gain market share at the expense of those who do not, much as with taste discrimination. Finding new screening devices is similar to the erosion of error discrimination in that finding new screening devices reduces the unexplained variance or “error term” in employers’ predictions about the applicants’ productivity (England and Lewin 1989). When precision is improved, firms learn from their mistakes and form correct expectations, implying that inaccurate stereotyping will be short-lived. It is worthwhile to mention that if employers do not use observable characteristics to infer productivity then discrimination will stop. However if these characteristics are signals for productivity and if identities are known (such as gender, disability, racial or sexuality), there is always the risk that there will be at least some degree of discrimination.

4 Types of Discrimination

The work of Becker, Arrow and other authors looks at taste-based and statistical discrimination using examples of ethnicity, specifically the oversimplification of “white” and “black” ethnic identities. More contemporary work has focused on the economic costs of various other discriminated and marginalised people; these will be covered in this section.

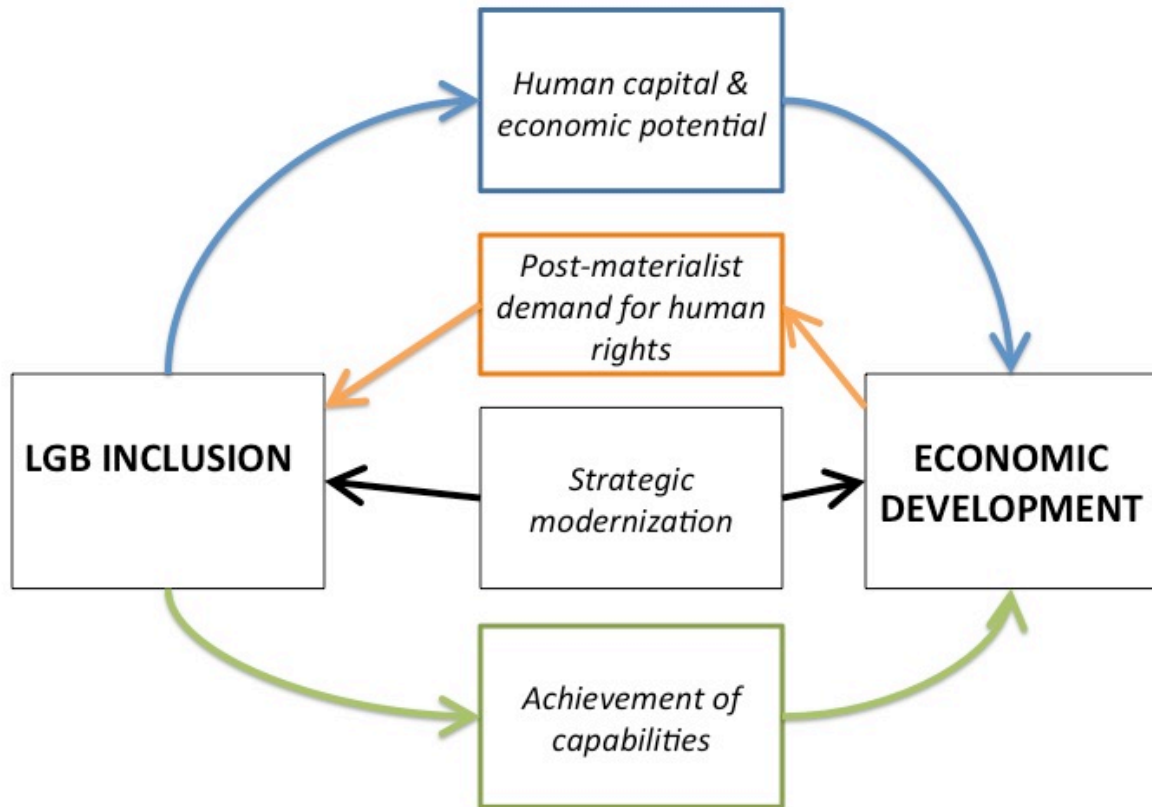
4.1 Lesbian, Gay, Bisexual, Trans* and related communities (LGBT+) People⁵

A wide range of scholarly theories in the field of economics and elsewhere argue that discrimination against LGBT+ people diminishes their economic contributions, which therefore restricts their contributions towards development and reduces overall measures of macroeconomic output (DFID 2005). Lee Badgett has pioneered work on the economic costs of LGBT+ discrimination, and has pictured casual pathways (see Figure 6) that link LGBT+ inclusion with economic development (see Badgett et. al. 2014 and Badgett forthcoming). Each one of these pathways will be analysed in this sub-section. The section ends with a consideration of the potential costs of LGBT+ *inclusion*.

Assumptions

- All non-heterosexual and non-cisgender identities would experience the same pathways.
- The pathways are the same for both those that reveal and conceal their sexual identities
- LGBT+ inclusion is defined in the same way across different countries
- A country with a high per capita has a low level of income inequality
- It is possible to discern sexual orientation and gender identity from the development of local identities.
- In the process of development, countries adopt policies of equality for LGBT+ citizens to demonstrate modernization and openness. Development is associated with a shift towards values of self-expression, autonomy and respect for minority rights.
- Tolerance towards LGTB+ sends a clear signal that a country is receptive to new ideas and the entry of creative workers.
- Worse treatment in schools translates into fewer years of education and a lower quality of education.
- LGBT+ people have worse health outcomes and access to training/employment
- A supportive workplace climate leads to better psychological health and increased job satisfaction among LGBT+ employees.

⁵ I use this acronym, which encompasses the full range of non-heterosexual or non-cisgender identities, including intersex, asexual and those questioning. I use an asterisk next to trans. to recognise all gender queer identities.

Figure 6: Casual Pathways linking LGBT+ Inclusion and Economic Development

Source: Badgett (forthcoming)

Human Capital Approach

Both LGBT+ individuals and the larger economy lose through the diminishment of human capital—the skills, knowledge and experience that improve workers’ productivity—that results from exclusion in education and training settings or through health disparities.⁶

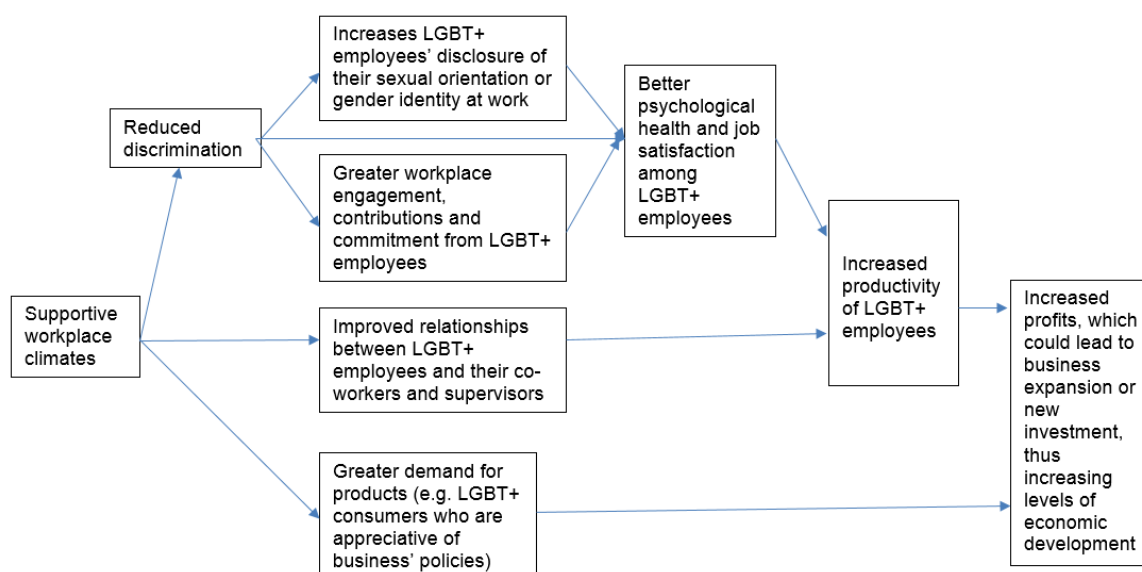
LGBT+ workers facing discrimination have reduced economic contributions, both directly through unemployment, underemployment or lower productivity, and indirectly through behavioural feedback loops that reduce individual and social investment in human capital and health. Lower wages and unemployment are associated with poverty, of which LGBT+ suffer disproportionate levels, affecting housing options, family formation and education decisions (Badgett 2014). The consequences for the macro-economy is that economic output is lower than its potential, generating costs for individual employers and society. To the extent that exclusion leads to fewer employment opportunities and lower incomes, LGBT+ will have a greater than average need and demand for anti-poverty programmes and other public services for low-income people (Badgett 2014).

⁶ In this section I concentrate on indicators for which there is significant research. Other areas that are less well documented and which further study is advisable is listed in Badgett (2014).

LGBT+ people who are discriminated against in school settings or encouraged to dropout have less human capital to contribute to economic growth (Badgett et. al. 2014). Education is the primary setting for young people to acquire general human capital, which are the skills, ability, knowledge and health that lead to higher productivity and economic growth. Exclusion and stigma can lead to lower levels of human capital for two reasons. Firstly, discrimination in wages could result in unequal compensation for LGBT+ people's human capital and reduced returns to an investment in human capital may discourage investments by LGBT+ people (Badgett 2014). Secondly, exclusion of LGBT+ people in educational and training contexts would reduce their opportunities to develop human capital and would therefore diminish future economic output. Badgett (2014) has argued that LGBT+ people might see greater investments in human capital as a strategy to overcome or mitigate the economic effects of discrimination and higher education might prepare LGBT+ individuals for jobs that involve more tolerant working environments. Yet it is not known whether they are able to translate that demand into actual outcomes given a context of educational discrimination.

There is also lost output due to exclusion-linked health disparities. "Minority stress" is a conceptual framework that focuses on the psychological impact of LGBT+ people's disadvantaged position, whether at a broad level, such as unequal treatment in legal or economic institutions, or the stigma revealed in everyday interactions and "micro-aggressions" against LGBT+ people (Meyer 2003). In addition to creating psychological stress, economic discrimination would reduce financial resources available to seek health care services, and social exclusion might make health care services less relevant or accessible to LGBT+ people. Rejection by families creates stress as well as reductions in potential resources. Experiences of violence and sexual assault that LGBT+ people experience can affect both mental and physical health. The disfavoured position of LGBT+ people in their families could increase minority stress and accompanying health problems. Human capital can also be lost through forced marriages of a lesbian woman or a gay man with a different-sex partner. Such marriages might channel women, in particular, into patriarchal marriages where they have less choice about pursuing education or participation in the labour force (Badgett forthcoming). Worse health outcomes means that LGBT+ people are less productive which has negative implications for businesses and the broader economy.

The so-called "business case for LGBT+ inclusion" is mostly rooted in the human capital approach. Firms that treat LGBT+ people equally are better at attracting and retaining talent (Burns 2012), and they are likely to out-innovate and out-perform competitors. Diverse environments foster "an atmosphere of trust and communication, which is essential to effective teamwork" and improves employee collaboration (Miller and Parker 2015 p. 43). Also a diverse workforce allows companies to align themselves more effectively with an increasingly heterogeneous customer base, and a commitment to diversity can strengthen brand value in a global market that increasingly values social responsibility (see Figure 7) (APPG 2016).

Figure 7: Pathways from LGBT+ inclusion to good business outcomes

Source: adapted from Badgett et. al. 2013 and Badgett forthcoming

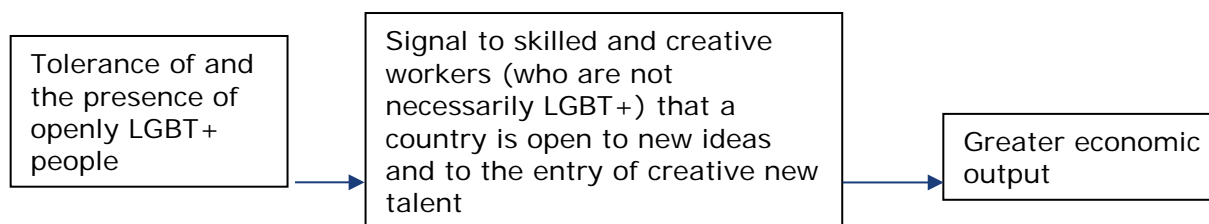
Post-Materialist Values Approach

A second notable theory—drawn from the work of political scientist Ronald Inglehart--effectively reverses the casual relationship of the human capital approach. Inglehart (1981, 2008) argues that when countries develop economically and become more economically secure, they will be more likely to value minority rights. Greater economic security means that the social and economic focus in a country can shift away from individuals' concerns about survival and towards values of self-expression, autonomy, and respect for minority rights.

Strategic Modernisation

The third perspective, "strategic modernization", also predicts a positive correlation between LGBT+ inclusion and economic development. Focusing through a different casual pathway, it looks more at the benefits of LGBT+ inclusion (but clearly implies a cost from exclusion). As part of a development strategy, countries might adopt policies of equality for LGBT+ citizens to demonstrate modernization and openness, generating the arrow on the left hand side of the box in Figure 6 to LGBT+ inclusion (Weiss 2007). Both that tactic and other development efforts enhance the country's attractiveness to global LGBT+ and non-LGBT+ tourists, foreign investors or other trading partners, generating the arrow on the right side of Figure 6 to economic development. So development and inclusion are enhanced at the same time but are not necessarily directly casually related.

Richard Florida's work fits into this approach. He argues that the presence of openly LGBT+ people does not directly cause greater economic output but "is an indicator of an underlying culture that's conducive to creativity" (Florida and Tinagli 2004 p. 25, see Figure 8 below).

Figure 8: Florida's Strategic Modernization Approach

Capabilities Approach

The capabilities approach is a framework with which to evaluate well-being that is designed to go beyond the many limitations of more traditional measures of economic development such as GDP. It conceptualises development as an expansion of freedom for individuals to make choices about what they can do and be, with that expansion not dependent upon individuals' membership in certain identity groups (Sen 1999, Nussbaum 2001). By definition, exclusion of LGBT+ people limits development. Discrimination in employment and education, violence and harassment, stigma and rejection, criminalisation and non-recognition in law, all translate into a lack of freedom for LGBT+ individuals to make choices about what they can do and be (Waldijk 2013). Hence inclusion is crucial for human well-being and economic development. Thus the arrows for the capabilities approach in Figure 6 draw a clear causal link from inclusion of LGBT+ people to economic development, in this case the expansion of capabilities.

Possible Costs of LGBT+ Inclusion for Development

- One potential cost emerges if gaining greater access to health care services or educational programmes would generate additional costs of services for LGBT+ people. The degree of new costs depends, though, on the extent to which LGBT+ people are already in those systems but are not fully benefitting from those services because of stigma and discrimination, as may be the case in the educational realm. Costs would include targeting LGBT+ people specifically, whether they are in the system or not, recognising that a differentiated approach is required. Training to healthcare staff and teachers, changing approaches, and syllabuses to ensure that their specific needs are met would require some costs. However, the long-term value of providing those additional health and educational services to LGBT+ people, generating human capital that would pay off into the future, would likely make the net gains positive. In this way it would be classified as an investment rather than a cost. Badgett (2014) highlights that reducing the prevalence of HIV, depression, suicide and violence from high levels in the LGBT+ community to at least general population levels would reduce needed health expenditures.
- A study by Berggren and Elinder (2012) proposes that tolerance of LGBT+ people might diminish productivity. They argue that conservative groups in a country might be intolerant of homosexuality, and their discomfort could lead them to take less productive jobs to avoid working with LGBT+ people, or they might avoid moving to tolerant countries. Badgett et. al. (2014) argues that even if this is the case, however, such costs would be better categorised as also reflecting costs of discrimination. Without prejudice towards LGBT+ people, those conservative groups would be more productive as they are likely to select a job that is optimal to their interests and skill-set. With higher productivity there are likely to be greater contributions to the tax-base with resulting positive effects on social spending.

Overall, while it is possible that there might be some costs of inclusion, at least some are more appropriately analysed as costs of exclusion. The costs of integrating LGBT+ people

into certain kinds of settings, such as educational institutions and health services, are likely to be outweighed by the resulting benefits of inclusion.

4.2 People Living with Disabilities (PLwD)

There are significant economic costs of excluding People Living with Disabilities (PLwD) from the development process, with the costs being categorised in various ways (DFID 2000, EC 2010, WHO and World Bank 2011, Walton 2012). Broadly speaking there are direct and indirect costs which can occur at two levels: they can relate to PLwD and their families and to society as a whole.

The relationship between disability and economic development is complex and differs according to country and context (Metts 2000, Mitra et. al. 2011). These factors make it more difficult to make universal claims about the economic costs of discrimination against PLwD. As a result, likely pathways between discrimination of PLwD and economic growth have seldom been depicted in detail. Table 2 shows the main theoretical pathways for how discrimination against PLwD can lead to economically unfavourable outcomes. Whilst not outlined in this table, these have impacts for the broader economy.

Disability defined
 Disability is an umbrella term for impairments, activity limitations and participation restrictions. It denotes the negative aspects of the interaction between an individual (with a health condition) and that individual's contextual factors (environmental and personal factors) (WHO 2001 p. 213 in WHO 2013).

Table 2: Pathways from Disability to Poverty

Economic indicator	Employment (hours worked, earnings, employment status)	Education (school enrolment, school attainment)	Household expenditures	Health expenditures	Assets and living conditions
From disability to poverty	Disability onset may lead to a loss of a job, reduced work hours, or lower productivity jobs and thus lower income for the household	Disability onset may lead to a school dropout or disability at birth may prevent school attendance in a given country context	Disability onset may lead to loss of earnings and reduced expenditure/ consumption for the household, while at the same time causing additional household expenditures	Disability onset may lead to extra health expenditures and may have an impoverishing impact	Reduced income and/or extra costs after the onset of disability may lead to a limited ability to accumulate assets and to ensure good living conditions

Source: Adapted from Mitra et. al. 2011

Assumptions

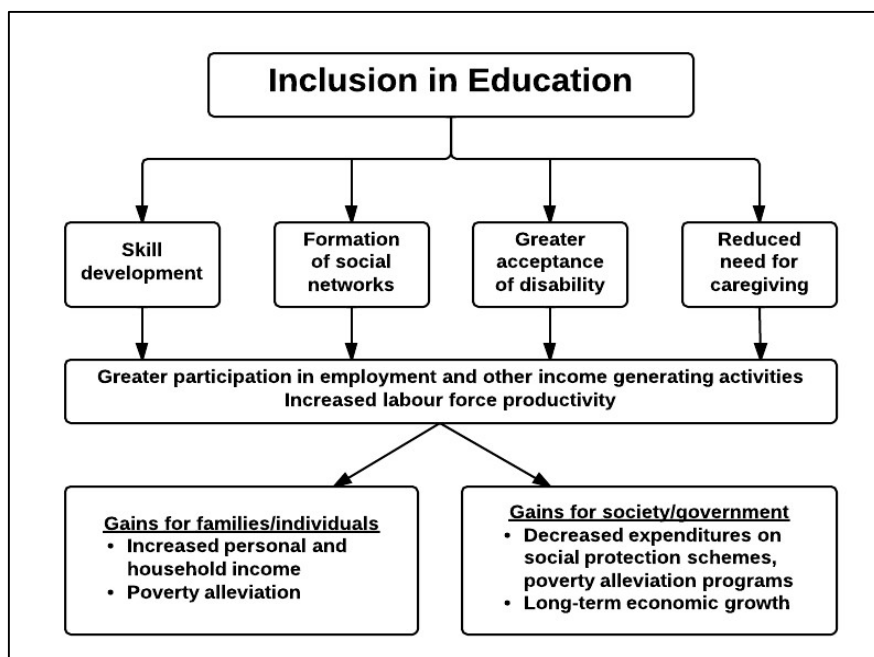
- The effects of disability inclusion/exclusion are the same regardless of type, duration and severity of disability, and the age of the PLwD.
- Those excluded from the labour force do not contribute to GDP.
- PLwD experience worse health relative to the rest of the population
- PLwD experience equivalent employment rates once barriers to inclusion have been removed. There is no wage discrimination or barriers to career advancement once in the labour market
- A lower unemployment rate results in a higher probability for labour market activity
- Government has the ability to determine the work status of PLwD and can reallocate spending away from social assistance
- There are jobs available that can be performed by PLwD
- Increased labour force participation of PLwD results in an increased tax base for a country.

Education

There has been a more detailed analysis of the benefits of an inclusive approach in the field of education, which is only translated into economic development should there be ease of access into the labour market and for their working needs to be met (see Figure 9). For persons with a disability onset at birth or during childhood, their disability may prevent school attendance which restricts human capital accumulation and may thus lead to limited employment opportunities and reduced productivity in adulthood (Filmer 2008). Additionally, schools are an important setting for developing social networks, which can lead to job opportunities or promote entrepreneurship (Allen 2000). Moreover, employment decreases reliance on social protection schemes (where provided), leading to decreased government spending on these programmes (Banks and Polack 2014). The relevance and intensity of this link with education will vary depending on many factors, including the socioeconomic status of a family before the onset of childhood disability, the timing of disability onset, the type and severity of disability, the interaction between individuals' (Mitra et. al. 2011).

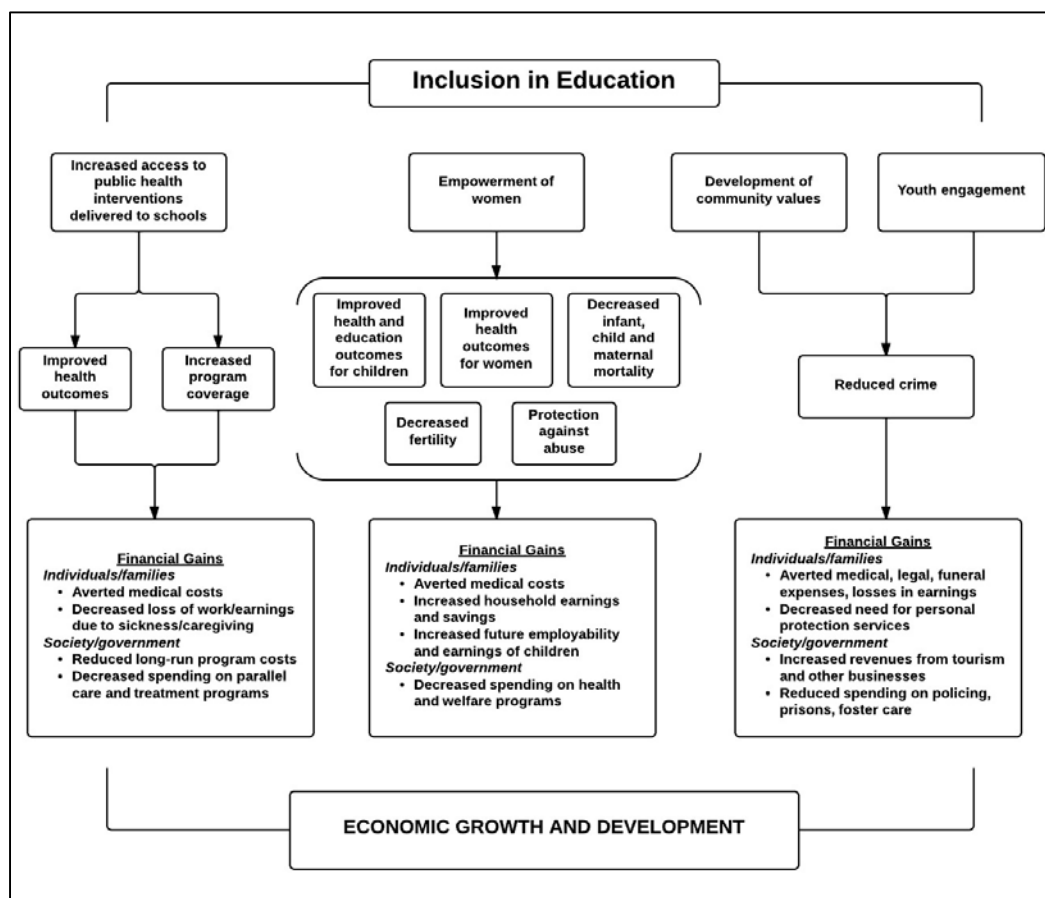
Several studies on education find that adopting an integrated approach is more cost-effective than providing special schools, and also leads to more beneficial outcomes (Metts 2000, Bieler-Berman 2008 in Walton 2012). Traditional segregated rehabilitation and custodial care systems are expensive as they do not allow for economies of scale and there are transport costs and institutional provision typically associated with segregated services. They also prevent PLwD from gaining social and economic access (Metts 2000, Walton 2012). Yet there are some short-term costs of inclusive education, including the costs of adapting curricula, training teachers, providing teaching aids and adapting school infrastructure (DFID 2010). These are thought to outweigh the long-term benefits (Walton 2012).

Figure 9: Gains of Inclusion in Education



Source: Banks and Polack (2014)

Figure 10: Wider benefits of an inclusion approach to education



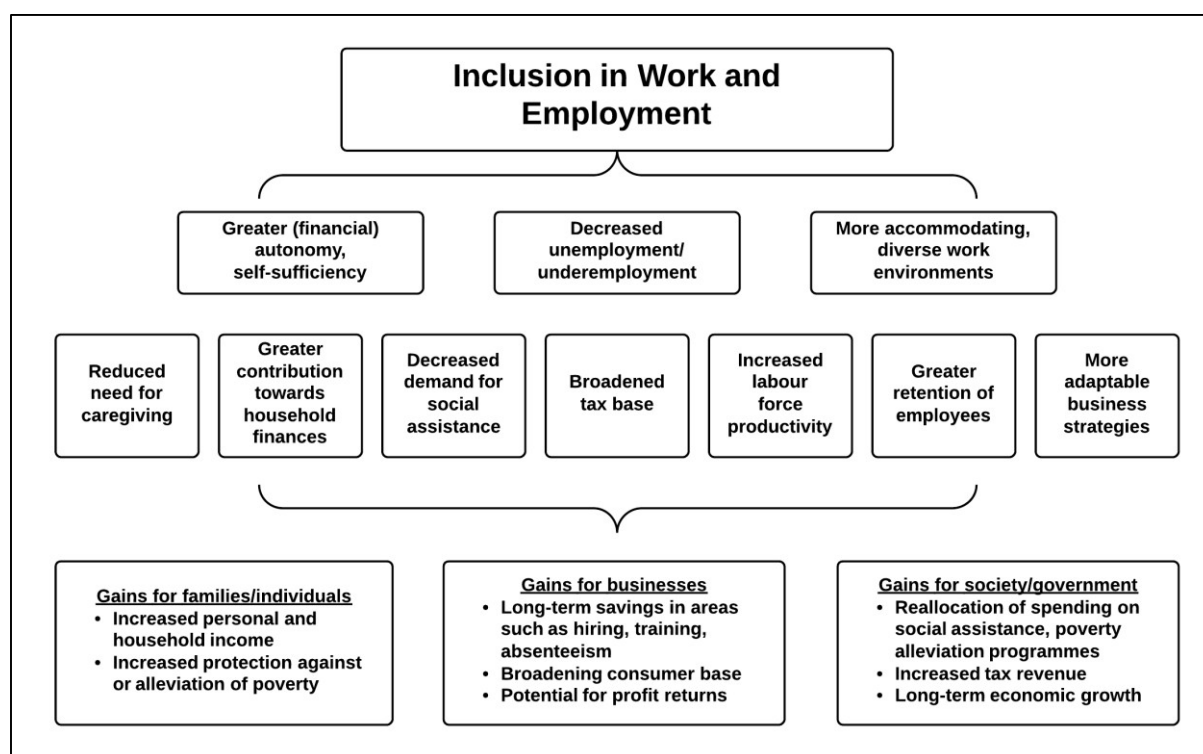
Source: Banks and Polack (2014)

Education also has positive impacts in areas such as crime, population growth, health, citizen participation and gender empowerment, which in turn have financial and social consequences. The theoretical routes are outlined in Figure 10.

Work and Employment

As the association between employment and economic costs/gains is more direct than for these other areas, most studies attempting to quantify the financial impact of inclusion or exclusion measure it through employment-related pathways. Inclusion in work can lead to (1) increased individual and household level earnings; (2) at societal level, including PLwD from employment can lead to increased labour productivity, contributing to GDP; (3) lower spending on social protection programmes; and (4) including PLwD in the workforce can increase profits for businesses. These pathways are mapped onto Figure 11.

Figure 11: Economic gains of Inclusion in Work and Employment



Source: Banks and Polack (2014)

Individual Earnings and Household Income

Disability may prevent work, or constrain the kind and amount of work a person can do (Meyer and Mok 2008). In other words, to use Sen's (1992, 2009) term "earnings handicap", (an individual's ability to earn), disability may lead to the lower income for the individual and the household and may result in worsening of the living standard and eventually poverty, if the household cannot compensate for the lost income and has to adjust its expenditures accordingly. On the other hand, disability may also lead to additional expenditures for the individual and the household with disabilities, in particular in relation to specific services (health care, transportation, assistive devices, personal assistance and house adaptation). As a consequence of the earnings and the conversion handicaps, a disability may lead to a lower standard of living and poverty, if a household cannot compensate for the lost income and cover additional expenditures. In practice, the magnitude of these effects would depend on many factors, including the household's socioeconomic status prior to the onset of disability (Jenkins and Rigg 2003), type, severity and duration of disability, whether a disabled person is a principal income earner, as well as a policy context.

Disability may lead to limited employment and forgone earnings of other family members to care for a disabled family member. This decision will depend on whether the disabled family member is a child or an adult, the availability and accessibility of care services outside the family, the opportunity cost of care, the existing labour market status of family members, the household decision on how to share the care between family members and whether family members co-reside with the disabled person, and on customs and traditions (Mitra et. al. 2011).

Increases in household income benefit not only the direct recipients, but also benefit the entire community. Larger disposable incomes often mean increased consumption, which, if goods and services are bought from local suppliers, leads to a spreading of resources to others. Additionally, extra income beyond the subsistence level allows small-scale entrepreneurs to invest in their enterprises, which may include more spending in the community, such as by buying capital inputs or hiring workers (Zimmerman and Banerjee 2009).

Labour Productivity and Contribution to GDP

As a group, PLwD often have lower labour productivity—or contribution to a country's GDP—compared to individuals without disabilities. This is often due to excess unemployment and economic inactivity as individuals who are not working are not contributing to the economy. Even when employed, PLwD may not reach their maximum output level due to factors such as attitudinal, communication and physical barriers in the workplace and failure to provide appropriate accommodations and support. The relevance and intensity of this pathway depend on the cultural context in so far as negative attitudes toward the employment potential of PLwD in society at large or within the household might limit access to work (Mitra and Sambamoorthi 2008). Powers (2008) argues that increasing employment levels among PLwD increases both the amount of goods and services produced in the economy, and the demand for goods and services.

Impact on social assistance spending and tax revenue

Without the economic autonomy gained through work, PLwD may become more reliant on social assistance programmes. Although still relatively limited in coverage, availability of such programmes is increasing across Lower Middle Income Countries (LMICs) and several LMICs have implemented social assistance programmes specifically targeting PLwD. Such programmes could facilitate, limit or not affect access to employment (Mitra et. al. 2011). By promoting avenues for work, fewer PLwD would be in need of social assistance, thus lessening the demand on often financially-constrained programmes (Banks and Polack 2014).

Furthermore, increasing labour force participation of both PLwD and their caregivers increases a country's tax base. Though the tax systems of many LMICs lack coverage and efficiency—particularly in their ability to capture taxes from the informal sector—any additions to the tax base, in theory, lead to increases in government revenue (Banks and Pollack 2014).

Profitability for Businesses

There are a number of advantages for businesses in hiring PLwD. Firstly, it can improve diversity, skills and the general work environment. Studies have shown that employing PLwD can increase morale and teamwork among all staff, which in turn can increase productivity. Also, creating structures and systems to accommodate PLwD can facilitate the retention and return to work of other workers who develop impairments or other limitations during the course of their employment. Furthermore, the provision of reasonable accommodation may include technology that is provided by local companies, potentially increasing jobs and increasing sales in other sectors of the economy. Secondly, employing PLwD can bring an improved understanding of the needs and wants of these

potential customers, allowing companies to adapt strategies to better compete in a diverse marketplace (Houtenville and Kalargyrou 2012, ILO 2010). By ensuring products and services are accessible, businesses may attract more customers with disabilities, leading to increased sales and profits. Furthermore, hiring PLwD can improve a company's corporate image, which can then attract customers and promote brand loyalty (Banks and Polack 2014).

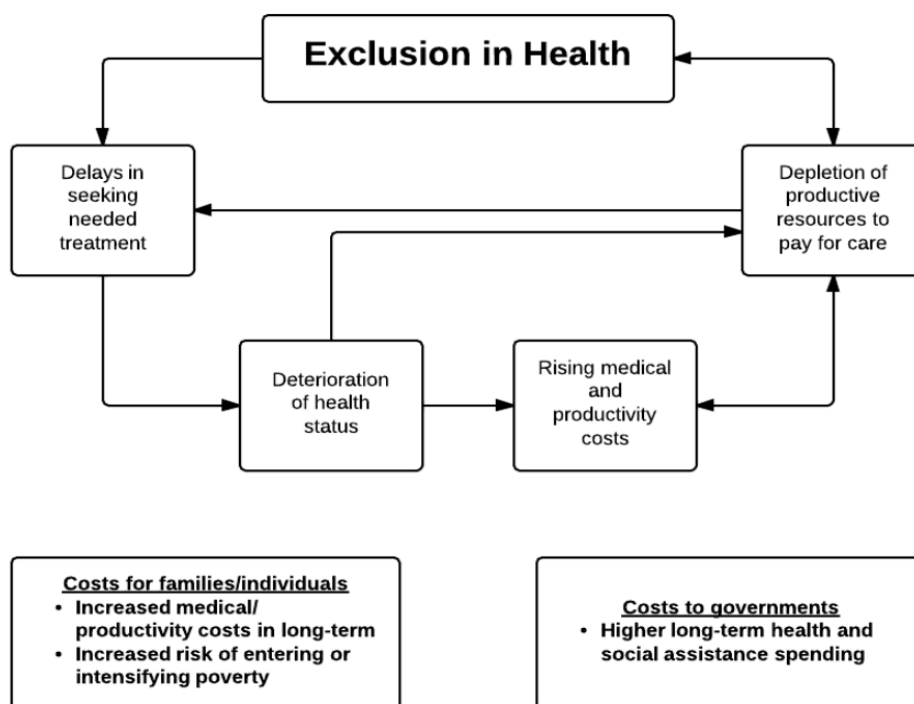
There is less evidence about how if PLwD are not being hired due to discrimination then this can negatively affect firm productivity as they may not be hiring the best person for the role. This is despite many organisations representing PLwD (in the UK, namely Zadek and Scott-Parker (2001) of the UK Employers Disability Forum, Business Link and Fast Forward) arguing that being open to hiring PLwD ensures a greater livelihood of getting the right person for the job. Empirical evidence also supports this theory. Aston et. al. (2005) and Dewson et. al. (2005), both in Needels and Schmitz (2006, p. 97), report that UK employers identify that PLwD are “better quality hires” as a benefit for recruiting PLwD, which alludes to this theory.

Health

Exclusion of PLwD from needed health services carries many potential direct and indirect costs to individuals, their households and even societies at large. These costs may be incurred through a number of three different pathways: (1) high out-of-pocket medical costs can exacerbate poverty; (2) failing to include PLwD in public health campaigns can reduce programme efficiency and desired impact; and (3) poor health can lead to participation restrictions in areas such as employment and schooling, which in turn limit development of human capital, reduce household earnings and even limit national economic growth.

Exacerbation of poverty through high out-of-pocket medical costs

Figure 12: Spiraling medical costs and the poverty cycle



Source: Banks and Polack (2014)

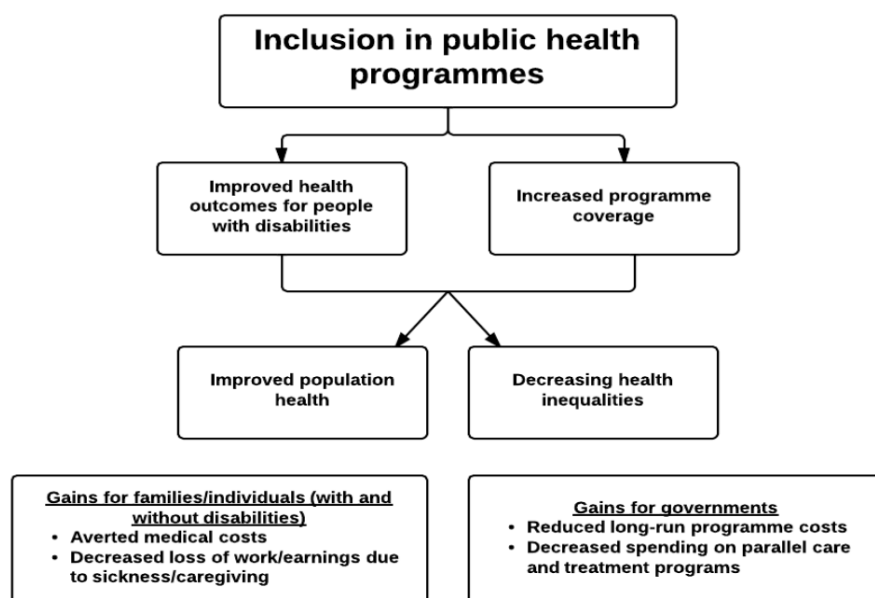
Inability or delay to access and receiving appropriate health care may result in continuously poor or worsening levels of functioning—including the development of additional disabling conditions—that lead to higher medical and productivity costs in the long term (see Figure 12). It may lead to critical health conditions that require urgent care, ultimately generating higher medical costs. Families may be forced to take drastic measures to finance urgent treatment, such as selling assets, taking out loans or reducing consumption or other necessary household items. This depletes households of resources that could be used to invest in family enterprises, education and other productive avenues to push households beyond a subsistence level.

In addition to the substantial costs borne by individuals, failure to adequately subsidize medical costs for PLwD who cannot afford to pay also carries costs for the broader society. Rising costs associated with preventable deteriorations in health status may also be felt in health sector budgets, potentially leading to spending cuts for other health programmes (Lagarde and Palmer 2008). Furthermore, PLwD who fall into poverty as a result of medical expenses may become reliant on social assistance programmes.

Impact on Public Health Interventions

Failure to include PLwD can impede the effectiveness and efficiency of public health programmes (see Figure 13). On an individual level, exclusion from such programmes leads to a continued propagation of health inequities between PLwD and people without disabilities, with the associated negative consequences. Additionally, many health interventions require broad coverage and widespread participation to be successful; thus not including PLwD can jeopardise the health of entire communities. Consequently, though making interventions inclusive may involve extra initial costs, savings through more efficient health sector spending and reduced burden of disease may more than offset the investment in the long-term.

Figure 13: Impact on Public Health Campaigns



Source: Banks and Polack (2014)

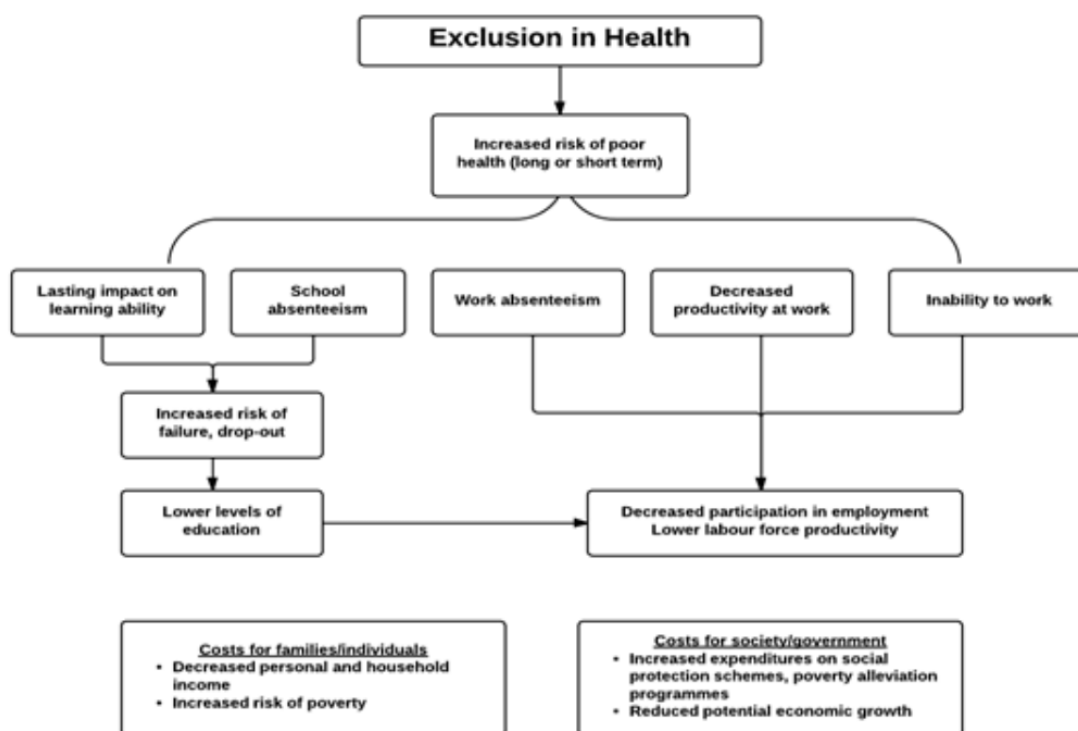
Inadequate attention to the specific requirements of PLwD in the planning stages of public health interventions can hamper the realization of programme goals and lead to inefficient spending. Though adaptations to make programmes accessible will lead to some additional costs, in the long-run the rates of return on investment are likely to be higher when

considering the financial and social implications of reducing individual and population burden of disease.

Downstream Effects of Poor Health

While improving health is an important goal in its own right, it can also have positive impacts in areas such as education, employment and even national economic growth (see Figure 14). Reducing inequalities and barriers to inclusion thus may not only lead to health gains amongst PLWD, but also can increase their social, cultural and economic participation. This broader integration can then in turn lead to reductions in poverty and marginalization while also promoting human and economic development.

Figure 14: Downstream Effects on Poor Health



Source: Banks and Polack (2014)

4.3 Gender

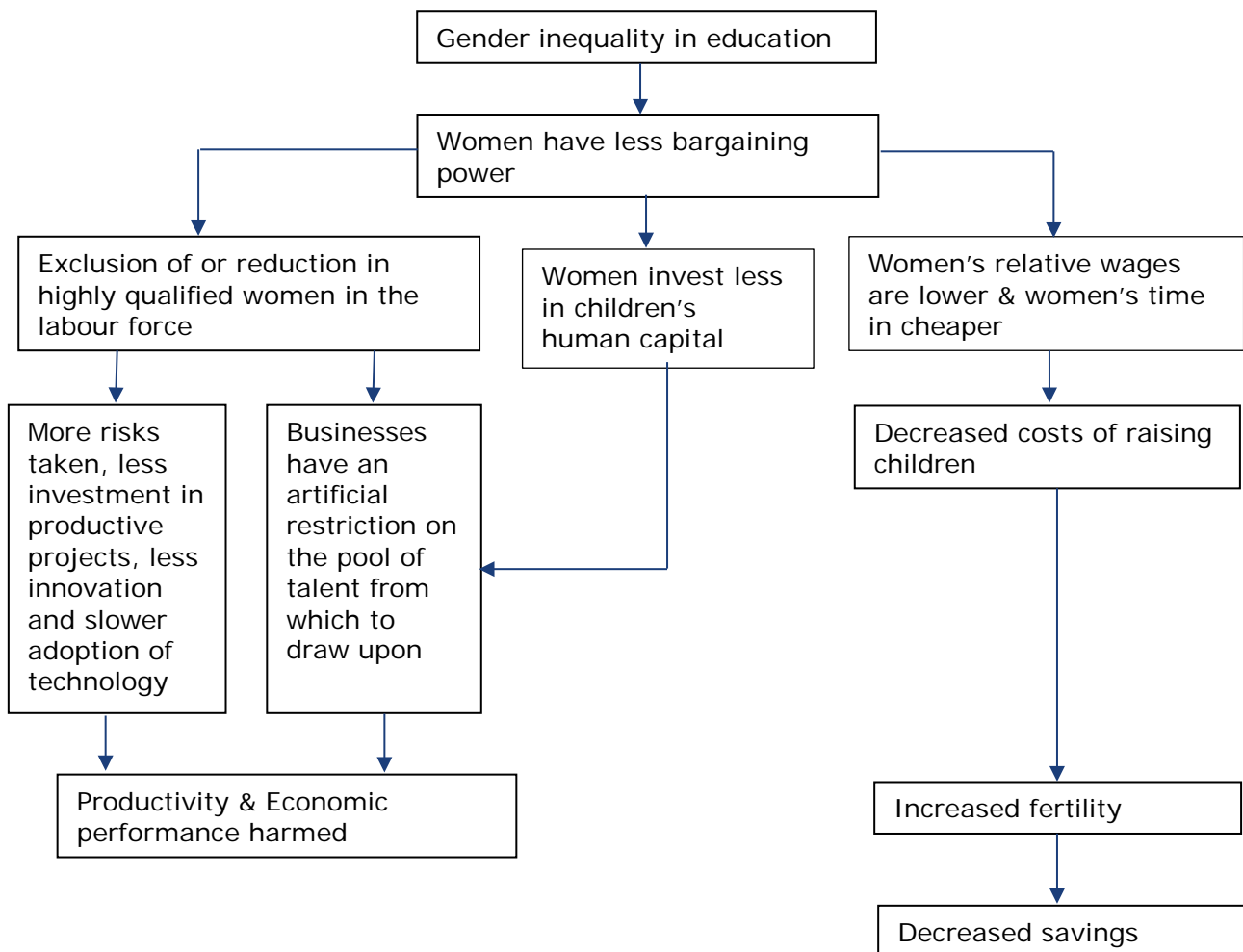
Few theoretical papers have been used to analyse the pathways of gender inequality on economic growth within developing countries. This might be because the strength of the impact, and the pathways through which it occurs, is mediated by various contextual factors, including the nature of growth strategies, the structure of the economy, the sectoral nature of the job segregation, levels of economic development and 'cultural' factors. It also varies according to the time frame of the study and whether the focus is on short-term, demand-induced growth effects or longer term growth models that allow for indirect and feedback effects to play out. Those studies that do exist, however, mostly provide evidence that gender gaps have a negative effect on economic growth (Klasen and Lamanna 2009, Kabeer 2012, Kabeer 2016), with more evidence on gender differences in educational attainment than labour force participation and wages (Kabeer and Natali 2013). Klasen and Lamanna (2009) point out that it is difficult to separate the effects between gender gaps in education, employment and pay. For this reason I have created one flow chart for this sub-section on gender (see Figure 15).

Assumptions

- Men and women have the same talent and ability distribution.*
- Women are more likely than men to invest the resources under their control in their children’s human capital.
- Economic output responds to increased numbers in the labour market.
- A strong substitution effect- a lowering of women’s relative wages results in substitution of labour market activities to childrearing.
- Women want to undertake paid work.
- There is no part-time work, job sharing or temporary work.
- Gender inequality and decreased bargaining power is the reason for lower labour market attachment for women, rather than for macroeconomic reasons.

* This assumption may not be very accurate for some developing countries in which women have less education than men and, as a result, they are likely to be less skilled. There might be frictions to women for jobs requiring extreme physical strength (Cuberes and Teignier-Baque 2011).

Figure 15: Economic discrimination based on gender



Gender discrimination in education

Gender inequality in education is thought to reduce the average amount of human capital in a society, which harms economic performance because of the exclusion of highly

qualified girls and the artificial restriction of the pool of talent from which to draw upon (Dollar and Gatti 1999, Blackden et. al. 2006). Girls dropping out of school early are more susceptible to having an increased number of offspring, with these children at heightened risk for mortality and decreased educational chances (Cuberes and Teignier-Baque 2011).

On the other hand, where there is a reduction in gender inequality, women's relative wage is raised and there are increased costs of raising children, which affects fertility negatively (Galor and Weil 1996, Cavalcanti and Tavares 2007). Lagerlof (2003) argues that as economies realign towards a more "gender-equal" equilibrium, women's human capital increases and their time becomes more expensive, which then leads families to substitute quality for quantity in children. This eventually leads to a higher stock of human capital. This, in turn, leads to a higher labour productivity level and a higher growth rate of income and output per capita in the future. Lower fertility levels leads to lower population growth, increased supply of savings and higher levels of capital per worker.⁷

Many of these effects operate through the increased bargaining power associated with women's education and employment and the associated increase in their ability to exercise control over their own fertility as well as influence investments in their children (Sen 1990, Klasen and Wink 2002, King et. al. 2008).⁸ Women are often associated with reproductive responsibilities, and therefore are more likely to invest resources under their control to their children's human capital, thereby increasing the productivity of the next generation of workers (Klasen 1999, World Bank 2012). This greater bargaining power not only benefits the women concerned, but can also have a range of growth-enhancing effects. For example Stotsky (2006) finds that women have a stronger preference for savings, a lower degree of risk aversion and a higher propensity to invest in productive projects.

Dollar and Gatti (1999) argue that at early stages of development, gender inequality in education does not have an impact on growth but this effect reduces as the country develops. In subsistence agricultural societies there might be positive returns to having one adult member literate but low and diminishing returns were likely to set in soon after. In such contexts, cultural preferences for educating males or market failures that acted against educating females were unlikely to carry significant productivity costs. As economies industrialised and became more reliant on wage labour, gender discrimination in education would start to impose productivity costs and slow down the rate of growth.⁹

Gender discrimination in the labour market

There are negative effects for current aggregate productivity generated by the mis-allocation of women's talents in the labour market. If ability and talents are assumed to be evenly distributed by gender, then the failure to educate and make use of women's ability and talent to the same extent as that of men represents a market distortion (Klasen 1999). Esteve-Volart (2004) provides a model where agents are born with random endowments of entrepreneurial talent, and they choose how much human capital to acquire and whether to become managers or workers. If women are excluded from

⁷ Known as the "demographic gift", for a period of several decades, the working-age population will grow much faster than the overall population, thus lowering dependency rates with positive repercussions for per capita economic growth (Bloom and Williamson 1998).

⁸ The implicit assumption in these studies is that women's preferences are more altruistic than men's, for which this has been challenged. Firstly Dufo argues the positive association observed between women's access to resources and investments in children's human capital may simply reflect their husbands "unobserved characteristics"; "if he is progressive enough to allow his wife to seek employment, then this same progressive attitude may make him treat his children better (Dufo 2012 p. 1065). Secondly, the possibility that women's access to resources can lead to the deterioration in children's welfare. For instance, mothers in low-income households who must take up wage employment in order to earn a living often keep their older daughter back from school to look after younger siblings (Kabeer 2016).

⁹ While the authors had acknowledged the possibility that women's education might affect economic growth indirectly through its impact on fertility decline, they had not explored this further. This issue was explicitly addressed by Klasen (1999). He found that including fertility and child mortality in his growth equation reduced, but did not eliminate, the association between female education and growth, suggesting part of its impact on growth was via reduced fertility and increased levels of health.

managerial positions, equilibrium wages and human capital investment for both male and female workers are reduced and the average talent of managers is lower. Lower talent then results in less innovation and slower adoption of technology, both of which reduce aggregate output. If women are completely excluded from the labour force, aggregate productivity and GDP per capita are lower since they can only re-use their talent to engage in home production.

Similar to the theory by Esteve-Volart (2004), Cuberes and Teignier (2011) present a model of talent allocation in which people are endowed with a managerial talent drawn from a fixed distribution. The most talented individuals choose to become firm managers, while the rest are employed as workers. Gender inequality is then introduced as an exogenous restriction to women's access to managerial positions or their participation in the labour force. The model predicts that gender gaps in access to managerial positions leads to a decrease in the average talent of managers, which reduces aggregate productivity, while gender gaps in the labour force participation lead to a fall in income per capita.

In contrast, Blecker and Seguino (2002) and Seguino (2000a, 2000b) highlight a different mechanism, leading to contrasting results. They argue that gender inequality in wages in contexts of high female education appears to be conducive to growth in the early stages of export-oriented industrialisation. As Braunstein (2012 p. 15) puts it: "when gender discrimination is manifested in ways that do not compromise the overall quality of the labour force but merely lower the cost of labour for employers, systematically discriminating against women can have positive effects on growth". Productive but cheap female labour attracts investment by signalling high profitability which in turn boosted exports and economic growth (Kabeer and Natali 2013). For such competitive export industries to emerge and grow, women need to be educated and there must be no barrier to their employment in such sectors.

There are a couple of critiques to the inevitability and sustainability of the process. Firstly, Seguino (2007, 2010) notes that as capital has become increasingly mobile, its ability to relocate to other lower wage sites if faced with rising wages in labour-intensive, export-oriented manufacturing has reduced women's ability to bargain for higher wages. This in turn reduces pressure on firms to innovate and therefore slows productivity growth. This explains why it is possible for wage gaps to remain wide, even when the demand for female labour is strong. Secondly, Busse and Spielmann (2006) argue that countries might be locked to the production of certain commodities and might not be able to switch to higher-valued goods over time. There could even be a negative impact if prices of labour-intensive products go down and competition increases. The pace of the transition from which wage inequality becomes a promoter towards an inhibitor of growth, and the viability of the inequality-based route to growth for countries with different forms of patriarchy, remains a matter of debate (Kabeer and Natali 2013). Lastly, the viability of this approach as a profit-maximising strategy starts to decline once labour markets tighten, surplus female labour starts to dry up, domestic markets develop and export industries move into higher technology and skill-based production which require a more educated and skilled work force. Also, as workers become more educated and organised, they to become less willing to acquiesce to continued wage discrimination (Kabeer and Natali 2013).

Less theoretical work has been done in the following areas, but are worth mentioning at this juncture:

- Discrimination could reduce the effort of women, producing again a loss of productivity. The monetary returns of women's labour when they engage in the market are generally lower than those enjoyed by men. When workers receive lower wages than they expected, they perform worse (see Schwieren 2003). If discriminated against, women might hesitate to participate in the labour market at all (Baldwin and Johnson 1992). Unless there is greater equality in the returns on economic activity, an increase in men's activity rates is likely to lead to higher

levels of income at both household and national levels than an increase in women's rates (Kabeer 2016).

- Women workers, on average, appear less prone to corruption and nepotism (World Bank 2001). According to this view, increasing access of women to the workforce and to decision making bodies may improve governance in business and government. This theory is rather speculative and suggestive at this point.

5 Conclusion

This paper has looked at various economic costs of discrimination from an economic viewpoint. It firstly looked at taste-based discrimination, followed by statistical forms of discrimination. The second section analysed economic distribution experienced by LGBT+ people, PLwD and for women. Assumptions have been provided, which can be used to see whether the theories are likely to hold in low- and middle-income countries.

The underlying assumption in Becker's employer taste-based discrimination model is that white employers either hire blacks at lower wages or employ only whites even though this will decrease company profits. This model assumes overt discrimination by white employers against black workers. However, under perfect competition, the phenomenon is likely to disappear. In contrast, statistical discrimination makes allowances for the incomplete and uncertain information on the expected productivity of applicants. While Becker's model runs contrary to profit maximisation, statistical discrimination theorists argue that it is rational within a competitive market for employers to discriminate if easily observable characteristics infer information about productivity. An increase in the precision of screening instruments means that it is likely that practice would erode over time.

Discrimination clearly exists for women, LGBT+ people and PLwD and various theories have been proposed to outline how this can have economic impacts. A key driver is education. If the accumulation of human capital within education is hindered it can lower productivity in later life. If minorities experience discrimination once in the workforce then they are less likely to make significant investments in human capital which can result in underemployment or unemployment. In this way, experience and performance within the education realm is closely linked to labour market outcomes.

Unemployment from the paid labour force was a particular issue for PLwD and women. Only in the gender literature was it explicitly mentioned that by discrimination against a particular group translates into businesses having a restricted pool from which to select qualified workers from. There literature on disability and gender mentioned that when there are more minorities within the workforce then there is less financial pressure on social assistance programmes.

Lower health outcomes were mentioned for PLwD and LGBT+, where health services are less accessible and relevant. Like for education, poor health can lead to worsened employment outcomes and lowered productivity. Pathways involving health are particularly significant for PLwD, which is hardly surprising—where health services are absent then a caregiver is often needed. Potentially, this could mean that two income earners are not in the labour force, which negatively impacts upon the economy and poverty level of the household.

The business case for minority inclusion is clear—having a diverse workforce fosters teamwork and collaboration, and boosts morale. These firms are likely to out-innovate and out-perform. Inclusion can assist the corporate reputation and brand, and a more diverse workforce can better understand the needs and wants of its heterogeneous customer base. This can increase the number of customers, trading partners, investors and tourists which can have a positive impact on sales and productivity and, ultimately, business profitability.

The level of economic development of a country is quite crucial to how the theories play out. For example, some LGBT+ literature found that at higher levels of economic development, countries are more likely to hold values of self-expression, autonomy and respect for minority rights. Where the cultural context is more accepting of women and minorities then this fosters inclusion which has economic benefits. In the gender literature some theorists have concluded that the significance of gender inequality in wages increases as a country develops.

Findings from the LGBT+ and disability literature suggest that there are additional costs to including these minorities within health care, education and the workplace but the benefits of their inclusion to the economy outstrip the costs.

References

- Aigner, D. J. and Cain, G. C. (1972) Statistical Theories of Discrimination in Labour Markets, *Industrial and Labour Relations Review*, 30(2), pp. 175-187.
- Aigner, D. and Cain, G. C. (1977) Statistical theories of discrimination in labour markets, *Industrial and Labour Relations Review*, 30(2), pp. 175-187.
- Altonji, J. and Blank, R. M. (1999): [Race and Gender in the Labor Market](#), in O. Ashenfelter and D. Card (Eds.) *Handbook of Labor Economics*, Vol 3.
- Allen, W. D. (2000) Social networks and self-employment, *Journal of Socio-Economics*, 29(5) pp. 487-501.
- APPG (2016) *The UK's stance on international breaches of LGBT rights*, All Party Parliamentary Group on Global LGBT Rights
- Arrow, K. (1972) Models of job discrimination, in A. H. Pascal (ed.) *Racial Discrimination in Economic Life*, Lexington, pp. 187-204
- Arrow, K. (1973) The theory of discrimination, in O. Ashenfelter and A. Rees (eds.) *Discrimination in Economic Labour Markets*, Princeton, pp. 3-33.
- Arrow, K. J. (1998) What has Economics to Say About Racial Discrimination? *Journal of Economic Perspectives*, 12(2), pp. 91-100.
- Badgett, L. M. V. (forthcoming) *The Economic Impact of Homophobia*, Chapter 5 (Volume 1).
- Badgett, L. M. V. (2014) *The Economic Cost of Stigma and the Exclusion of LGBT People: A Case Study of India*, World Bank.
- Badgett, L. M. V., Nezhad, S., Waaldijk, K. and van der Meulen Rodgers, Y. (2014) *The relationship between LGBT inclusion and Economic Development: An Analysis of Emerging Economies*, USAID and the Williams Institute.
- Baldwin M. and Johnson, W.G. (1992) Estimating the employment effects of wage discrimination, *The Review of Economics and Statistics*. 74(3), pp. 446–455.
- Baldwin, M. L. and Johnson, W. G. (2006) A Critical Review of Studies of Discrimination against Workers with Disabilities in W. Rodgers (ed.) *Handbook on the Economics of Discrimination*, Edward Elgar.
- Banks, L. M. and Polack, S. (2014) *the Economic Costs of Exclusion and Gains of Inclusion of People with Disabilities: Evidence from Low and Middle Income Countries*, CBM, International Centre for Evidence on Disability and London School of Hygiene and Tropical Medicine
- Becker, G. S. (1971) *The Economics of Discrimination*, University of Chicago Press.
- Berggren, N. and Elinder, M. (2012) Is tolerance good or bad for growth? *Public choice*, 150 (1-2), pp. 283-308.
- Black, D. A. (1995) Discrimination in an Equilibrium Search Model, *Journal of Labour Economics*, 13(2), pp. 309-334
- Blackden, M., Canagarajah, S., Klasen, S. and Lawson, D. (2006) *Gender and growth in sub-Saharan Africa*, UNU-WIDER Research Paper No. 2006/37.
- Blecker, R. and Seguino, S. (2002) Macroeconomic Effects of Reducing Gender Wage Inequality in an Export-Oriented, Semi-Industrialised Economy, *Review of Development Economics*, 6(1), pp. 103-119.
- Bloom, D. E. and Williamson, J. G. (1998) Demographic Transition and Economic Miracles in Emerging Asia, *World Bank Economic Review*, 12(3), pp. 419-455.
- Braunstein, E. (2012) *Neoliberal Macroeconomics: A Consideration of its Gendered Employment Effects*, UNRISD Research Paper 2012-1, UNRISD.
- Burns, C. (2012) *The Costly Business of Discrimination: the Economic Costs of Discrimination and the Financial Benefits of Gay and Transgender Equality in the Workforce*, Centre for American Progress.
- Busse, M. and Spielmann, C. (2006) Gender Inequality and Trade, *Review of International Economics*, 14(3), pp. 362-379.
- Cain, G. G. (1984) The economics of discrimination: Part 1 and Part 2, *Focus*, 7(2), pp1-11.

- Cavalcanti, T. and Tavares, J. (2007) *The Output Costs of Gender Discrimination: A Model-Based Macroeconomic Estimate*, Proceedings of the German Development Economics Conference, Zurich 2008, No. 43.
- Cavalcanti, T. and Tavares, J. (2015) The Output Cost of Gender Discrimination: A Model-Based Macroeconomics Estimate, *The Economic Journal*, 126, pp. 109-134.
- Charles, K.K. and Guryan, J. (2007) *Prejudice and the Economics of Discrimination*, Working Paper no. 13661, National Bureau of Economic Research.
- Charles, K. K. and Guryan, J. (2008) Prejudice and Wages: An Empirical Assessment of Becker's The Economics of Discrimination, *Journal of Political Economy*, 116(5), pp. 773-809.
- Coate, S. and Loury, G. C. (1993) Will Affirmative Action Policies Eliminate Negative Stereotypes? *The American Economic Review*, 83(5), pp. 1220-1240.
- Cuberes, D. and Teignier, M. (2011) Gender Inequality, Factor Allocation, and Aggregate Productivity, Mimeo.
- Cuberes, D. and Teignier-Baqué, M. (2011) *Gender Inequality and Economic Growth*, World Development Report, Gender Equality and Development, Background Paper
- DFID (2000) *Disability, Poverty and Development*, Department for International Development
- DFID (2005) Reducing Poverty by Tackling Social Exclusion: A DFID Policy Paper, Department for International Development
- DFID (2010) Education for children with disabilities—improving access and quality, Guidance Note- A DFID Practice Paper.
- Dollar, D. and Gatti, R. (1999) Gender Inequality, Income and Growth: Are Good Times Good for Women? Mineograph, World Bank
- Duflo, E. (2012) Women Empowerment and Economic Development, *Journal of Economic Literature*, 50(4), pp. 1051-1079.
- England, P. and Lewin, P. (1989) Economic and Sociological Views of Discrimination in Labour Markets: Persistence or Demise? *Sociological Spectrum*, 9, pp. 239-257.
- EC (2010) Study of Disability in EC Development Cooperation, European Commission
- Esteve-Volart, B. (2004) Gender discrimination and growth: theory and evidence from India, London School of Economics.
- Filmer, D. (2008) Disability, Poverty and Schooling in Developing Countries: Results from 14 Household Surveys, *The World Bank Economic Review*, 22(1), pp. 141-163.
- Florida, R. and Tinagli, I. (2004) *Europe in the Creative Age*, Demos.
- Galor, O. and Weil, D. N. (1996) The Gender Gap, Fertility and Growth, *American Economic Review*, 85(3), pp. 374-387.
- Goldberg, M. S. (1982) Discrimination, Nepotism and the Long-Run Wage Differential, *Quarterly Journal of Economics*, 97(2), pp. 307-319.
- Harford, T. (2014) *Gary Becker – the man who put a price on everything*, available online: <http://timharford.com/2014/05/gary-becker-the-man-who-put-a-price-on-everything/> [accessed on 17 July 2016]
- Holder, A. (2017) *Sex doesn't sell any more, activism does. And don't the big brands know it*, The Guardian online, 3 February 2017, <https://www.theguardian.com/commentisfree/2017/feb/03/activism-sells-brands-social-conscience-advertising> [accessed on 10 February 2017]
- Houtenville A. and Kalargyrou, V. (2012) People with Disabilities Employers' Perspectives on Recruitment Practices, Strategies, and Challenges in Leisure and Hospitality. *Cornell Hospitality Quarterly*, 53(1), pp. 40-52
- ILO (2010) *Disability in the Workplace: Country Practices*, In Bureau for Employers' Activities and Skills and Employability Department, Geneva.
- Inglehart, R. (1981) Post-materialism in an environment of insecurity, *The American Political Science Review*, pp. 880-900.

- Inglehart, R. (2008) Changing Values among Western Publics from 1970 to 2006, *Western European Politics*, 31, pp. 130-146.
- Jenkins, S. P. and Rigg, J. A. (2003) *Disability and Disadvantage: Selection, Onset and Duration Effects*, CASE Paper 74, Centre for Analysis of Social Exclusion, London School of Economics.
- Kabeer, N. (2016) Gender Equality, Economic Growth and Women's Agency: the 'Endless Variety' and 'Monotonous Similarity' of Patriarchal Constraints, *Feminist Economics*, 22(1), pp. 295-321.
- Kabeer, N. (2012) Women's economic empowerment and inclusive growth: labour markets and enterprise development, SIG Working Paper 2012/1, IDRC and DFID.
- Kabeer, N. and Natali, L. (2013) *Gender Equality and Economic Growth: Is there a Win-Win?* IDS Working Paper, Volume 2013, No 417.
- Kahn, L. M. (1991) Customer Discrimination and Affirmative Action, *Economic Inquiry*, 29(3), pp. 555-571.
- Kahn, L. M. (2012) The Economics of Discrimination: Evidence from Basketball, in S. Shmanske and L. H. Kahane (eds.) *The Oxford Handbook of Sports Economics*, Volume 2: Economics through Sports, Oxford University Press.
- King, E. M., Klasen, S. and Porter, M. (2008) Gender and Development Challenge Paper, Paper Prepared for the 2008 round of Copenhagen Consensus Project, Mimeographed, Copenhagen Consensus Centre.
- Klasen, S. (1999) Does Gender Inequality Reduce Growth and Development? Evidence from Cross-country Regression, Policy Research Report on Gender and Development, World Bank.
- Klasen, S. and Wink, C. (2003) Missing Women: Revisiting the Debate, *Feminist Economics*, 9, pp. 263-299.
- Klasen, S. and Lamanna, F. (2009) The Impact of Gender Inequality in Education and Employment on Economic Growth: New Evidence for a Panel of Countries, *Feminist Economics*, 15(3), pp. 91-132.
- Lagarde, M. and Palmer, N. (2008) The impact of health financing strategies on access to health services in low and middle income countries, The Cochrane Library.
- Lagerlof, N. (2003) Gender Equality and Long Run Growth, *Journal of Economic Growth*, 8, pp. 403-426.
- Lang, K., Manove, M. and Dickens, W. (2005) Racial discrimination in labour markets with posted wage offers, *American Economic Review*, 95(4), pp. 1327-1340.
- Lang, K. and Lehmann, J-Y. (2012) Racial discrimination in the labour market: Theory and empirics, *Journal of Economic Literature*, 50(4), pp. 959-1006.
- Loury, G. C. (1992) Incentive Effects of Affirmative Action, *Annals of the American Academy of Political and Social Science*, 523, pp. 19-29.
- Lundberg, S. and Starz, R. (1997) *Race, Information and Segregation*, Working Paper, Department of Economics, University of Washington.
- Mailath, G. J., Samuelson, L. and Shaked, A. (2000) Endogenous Inequality in Integrated Labour Markets with Two-Sided Search, *The American Economic Review*, 90(1), pp. 46-72.
- Metts, R. (2000) *Disability Issues, Trends and Recommendations for the World Bank*, World Bank Social Protection Discussion Paper No. 0007, World Bank.
- Meyer, I. H. (2003) Prejudice, Social Stress, and Mental Health in Lesbian, Gay, and Bisexual Populations: Conceptual Issues and Research Evidence. *Psychology Bulletin*, 129(5), pp. 674-697.
- Meyer, B. D. and Mok, W. K. C. (2008) *Disability, Earnings, Income and Consumption*, Working Paper No. 06.10, Harris School of Public Policy Studies, University of Chicago
- Miller, J. and Parker, L. (2015) *Open for Business: The economic and business case for global LGBT+ inclusion*, Open for Business, available online: http://www.open-for-business.org/wp-content/uploads/2016/01/Brunswick_Open_for_Business_full.pdf [accessed 26 August 2016]
- Mitra, S. and Sambamoorthi, U. (2008) Disability and the Rural Labour Market in India: Evidence for Males in Tamil Nadu, *World Development*, 36(5), pp. 934-952.
- Mitra, S., Posarac, A. and Vick, B. (2011) Disability and Poverty in Developing Countries: A Snapshot from the World Health Survey, World Bank SP Discussion Paper No. 1109.

- Needels, K. and Schmitz, R. (2006) Economic and Social costs and benefits to employers of retaining, recruiting and employing disabled people and or people with health conditions or an injury: A review of the evidence, Department of Work and Pensions, Research Report No. 400.
- OECD (2008) [*The Price of Prejudice: Labour Market Discrimination on the Grounds of Gender and Ethnicity*](#). OECD Employment Outlook, pp. 139-202.
- Nussbaum, M. C. (2001) Women and human development: the capabilities approach (Vol. 3), Cambridge University Press.
- Phelps, E. S. (1972) The Statistical Theory of Racism and Sexism, *American Economic Review*, 62, pp. 659-661.
- Powers, T. (2008) *Recognising ability: the skills and productivity of persons with disabilities*, Employment Working Paper No. 3, International Labour Organisation
- Schwieren, C. (2003) The gender wage gap—due to differences in efficiency wage effects or discrimination? METEOR Discussion Paper, University of Maastricht.
- Seguino, S. (2000a) Gender Inequality and Economic Growth: A Cross-Country Analysis, *World Development*, 28(7), pp. 1211-1230.
- Seguino, S. (2000b) Gender Inequality and Economic Growth: A Cross-Country Analysis, *World Development*, 28(7), pp. 1211-1230.
- Seguino, S. (2007) Is More Mobility Good? Firm Mobility and Low-Wage Low-Productivity Trap, *Structural Change and Economic Dynamics*, 18(1), pp. 27-51.
- Seguino, S. (2010) Gender, Distribution and Balance of Payments Constrained Growth in Developing Countries, *Review of Political Economy*, 22(3), pp. 373-404.
- Sen, A. K. (1990) Gender and Cooperative Conflicts, in I. Tinker (ed.) *Persist Inequalities*, Oxford University Press
- Sen, A. K. (1992) *Inequality Re-examined*, Cambridge University Press
- Sen, A. K. (1999) *Development as Freedom*, Oxford University Press
- Sen, A. K. (2009) *The Idea of Justice*, Allen Lane/Penguin Books
- Stotsky, J. G. (2006) Gender and its Relevance to Macroeconomic Policy: A Survey, IMF Working Paper WP/06/233.
- Teignier, M. and Cuberes, D. (2014) *Aggregate Costs of Gender Gaps in the Labour Market: A Quantitative Estimate*, UB Economics Working Papers 2014/308, Universitat de Barcelona
- Waldijk, K. (2013) The right to relate: A lecture on the importance of “orientation” in comparative sexual orientation law, *Duke Journal of Comparative and International Law*, 24(1), pp. 161-199.
- Walton, O. (2012) Helpdesk Research Report: Economic Benefits of Disability-Inclusive Development, AusAID
- Weiss, M. L. (2007) “We know who you are. We’ll employ you. Non-discrimination and Singapore’s bohemian dreams” in Badgett, L. M. V and Frank, J. (eds.) *Sexual Orientation Discrimination: An International Perspective*, Routledge.
- WHO and World Bank (2011) *World Report on Disability*, World Health Organisation.
- WHO (2013) How to use the ICF: A Practical Manual for using the International Classification of Functioning, Disability and Health, World Health Organisation
- Williams, H. (2015) *Discrimination: Theory*, Massachusetts Institute of Technology, available online [http://ocw.mit.edu/courses/economics/14-662-labor-economics-ii-spring-2015/lecture-notes/MIT14_662S15_lecnotes19.pdf] accessed on 31 July 2015
- World Bank (2001) *Engendering Development*, World Bank
- World Bank (2012) World Development Report: Gender Equality and Development, World Bank.
- Zadek, S. and Scott-Parker, S. (2001) *Unlocking the evidence: the new disability business case*, Employers Forum on Disability.
- Zimmerman, J. and Banerjee, S. (2009) *Promoting Savings as a Tool for International Development*, New America Foundation.