This dissertation develops a political economy of identity and identity-based stratification mechanisms. It argues that stratification mechanisms produce and reproduce structural relationships between identities and inequalities. Primarily applied to the study of migrants' integration, it develops novel explanations of some of the ways in which identity-based stratification mechanisms operate in markets and policy. Chapter 2 uses search and matching theory as an analytical tool to understand migrants' search processes, and the interaction between migrant and destination societies as matching events. It develops a social identity-based matching approach to migrants' integration into established social systems to explain frictions in integration endogenously. Chapter 3 introduces social stratification as a structural approach to exclusion in labor markets. Investigating whether stratification is an inescapable trap for migrant groups, it argues that the failure of migrants' integration is a collective action problem associated with how societies organize labor markets in a club-like way with sharply different sets of opportunities for different people. Chapter 4 develops the concept of 'algorithmic stratification' to illustrate identity-based structural exclusion mechanisms. It examines the ways in which the use of automated decision-making systems and algorithms in general contribute to the social reproduction of a stratified society. Chapter 5 closes the dissertation with the conclusion that just as who people are and how they are seen, labeled, and treated matters, so do identity and inequalities beyond the average man.

Merve Burnazoglu holds a Bachelor's degree from Hacettepe University, Turkey, and a Master's degree from the Aix-Marseille School of Economics, France, both in Economics. In addition, she has visited the University of Strasbourg in France, the University of Bayreuth in Germany, and George Mason University in the US. Merve carried out her Ph.D. research at Utrecht University from 2016 to 2022 and simultaneously worked as a lecturer and a financial analyst. Currently, she is an Assistant Professor of Philosophy, Politics, and Economics at the Utrecht University School of Economics.

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Merve Burnazoglu **Inequalities Beyond the *Average Man***

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The Political Economy of Identity-Based Stratification Mechanisms in Markets and Policy

Merve Burnazoglu

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Inequalities Beyond the Average Man

The Political Economy of Identity-Based Stratification Mechanisms in Markets and Policy

Ongelijkheid, de gemiddelde persoon voorbij.

De politieke economie van op identiteit gebaseerde stratificatiemechanismen in markten en beleid

(met een samenvatting in het Nederlands)

Proefschrift

ter verkrijging van de graad van doctor
aan de Universiteit Utrecht
op gezag van de rector magnificus,
prof. dr. H.R.B.M. Kummeling,
ingevolge het besluit van het college voor promoties
in het openbaar te verdedigen op
dinsdag 28 maart 2023 des ochtends te 10.15 uur

door

Merve Burnazoglu

geboren op 29 juni 1989
te Ankara, Turkije

Promotor: Prof. dr. Marcel Boumans
Copromotor: Prof. dr. John B. Davis

To a just and joyous future

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John and his work have become the biggest inspiration for my PhD. The question of identity had fascinated me, both personally and politically, but it was thanks to John that I started to think about it from a broader and academic perspective. My mind was set to understand what identity is and what it does. I could talk about any idea with John, and he managed to understand me and help me to express those ideas within the discipline of economics. His knowledge of and expertise in standard economic understanding but also alternative approaches in combination with his intellectual richness provided me with a great feedback opportunity. He was based in the US and we were not able to meet in department corridors, but he never waited for a day to respond to any of my emails. John, I cannot thank you enough for your guidance and support, but also for who you are with your openness and kindness.

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combining it with a methodological approach. We agreed that I would work with him and John for my PhD, not in Amsterdam but Utrecht, where he was starting his new position. I moved to the Netherlands in the following days, and started preparing my PhD project proposal as well as a finance job for living.

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Yo seré muralla pa' que no te ofendan
Y a ti no te tiren gitana a por tierra

Merve Burnazoglu
Den Haag, February 2023

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List of Abbreviations

ADM	Automated decision-making
AEA	American Economic Association
AI	Artificial intelligence
ASE	Association for Social Economics
CBS	*Centraal Bureau voor de Statistiek* (Statistics Netherlands)
EAEPE	European Association for Evolutionary Economics
EC	European Commission
ECHR	European Convention on Human Rights
EESC	European Economic and Social Committee
EIGE	European Institute for Gender Equality
EU	European Union
EU-LFS	European Union Labour Force Survey
GDP	Gross domestic product
HDR	Human Development Report by the UNDP
ILO	International Labor Organization
IOM	International Organization for Migration
LGBTQ+	Lesbian, gay, bisexual, transgender, queer and more
MIT	Massachusetts Institute of Technology
OECD	Organisation for Economic Co-operation and Development
UMV	*Uitvoeringsinstituut Werknemersverzekeringen* (Employee Insurance Agency Netherlands)
UN	United Nations
UNDP	United Nations Development Programme
US	United States
PPE	Philosophy, Politics and Economics
SSSQ	The Society for the Social Sciences of Quantification
SyRI	*Systeemrisico-indicatie* (Risk Indication System used in the Netherlands)

CHAPTER 1

Introduction: Identity and the Economics of Inequality

> "All animals are equal, but some animals are more equal than others."
>
> (George Orwell 1945)
>
> "All politics are identity politics, but some identities are more politicized than others."
>
> (Laurie Penny 2017)

1.1 Introduction

Inequality is a troubling phenomenon of our day. The common trends in income inequality show some fall between 1920-1980, while after 1980 it either increased due to new technologies and weaker trade unions, for instance, or remained stable (Alvaredo et al., 2017). Minouche Shafik (2017) connects this issue with broader welfare implications, "We live in increasingly divided societies where the social contracts and systems that bind us are fraying." One might question what the social contracts of our highly globalized, post-colonial world entail. But when the rich not only get richer but extremely richer, and the poor do not necessarily get poorer but remain in relative despair, inequality proves itself as one of the most pressing issues of our day. There is growing evidence, awareness, and concern among economists, economics students, and citizens that rising inequalities are a problem. For instance, Core – 'The Economy' project asked over 8,000 students from 18 countries, between 2016 and 2020 the following question: "what are the most pressing problems economists should address?" Inequality appeared as the most voted answer.[1]

What is inequality and why do we care about it? The worldwide-used economic

[1] `https://www.core-econ.org/the-economy/book/text/0-4-preface.html`

educational platform The CORE – 'The Economy' uses the image below from San Paolo in Brazil to illustrate what inequality looks like: the right-hand side shows big housing units with swimming pools on each balcony, and well organized and clean gardens with tennis courts symbolizing richness, while on the left-hand side, we see the world of slums in despair.[2]

Paraisópolis favela and Morumbi neighborhood in San Paolo, Brasil, by Tuca Vieira, 2004

Inequality in this image is about the striking gap between what people on the two sides, the rich and the poor, own. The wall that separates the two sides symbolizes the gap, but the image does not tell how the wall was built, and how the two sides fell into their social-economic positions that determine their sides. These remain open questions. The wall in San Paolo is evident and visible. Can we see other walls that do not appear in such strong physical forms? What are the walls of our day; what is the cement of these walls? Asked less metaphorically, *what underlies this gap between the better off and the worse off?*

The conventional explanations of the gaps mainly focus on income and wealth as both causes and consequences. Common explanations of their causes are often human capital, class, and location, and disparities in terms of access to health and education are often presented as consequences. Despite the multiplicity of causes and consequences and the complexity of the underlying mechanisms, our main factors in understanding and examining the gaps often boil down to focus on differences in outcomes between the rich and the poor. This is a very limited account of what the real world is about. The standard view, surprisingly in line with the American Dream and 'the master narrative,' relies on the possibility of upward mo-

[2]For the insider story by the photographer: `https://www.theguardian.com/cities/2017/nov/29/sao-paulo-injustice-tuca-vieira-inequality-photograph-paraisopolis`

bility, and that suggests that if people make proper choices and work hard enough, they could get similarly good outcomes.[3] This thought is based on very narrowly conceived market mechanisms, it tends to judge persons very individualistically, and see inequalities as accidental events.

Inequality is a complex phenomenon. The standard economic approach is limited in explaining inequalities, their various forms, and underlying mechanisms. A simple question is infrequently raised in standard economics: *Who are these people on both sides of these gaps, and how do these gaps persist?* Identity is the missing concept that could help answer the *who* and *how* questions in economics. Investigating gaps and inequalities without the concept of identity is a *one size fits all* approach that *cannot-fit-all*. This thesis arises from a fascination about the connection between inequality and identity, a concept widely missing from standard economics. It is an attempt to open the black boxes of inequality gaps, identities, and the mechanisms that produce and reproduce a structural relationship between them.

1.2 Constructing the world of inequalities in *one size*

Economists, and social scientists in general, do not just observe and analyze but they also construct the world (Porter, 1995). The economy is a social construct that is (re-)organized, (re-)ordered, and cleaned of irregularities so that we can make a sense of it. We answer seemingly evident questions through the filters of this social construct. For example, to answer the question '*Is Syria in civil war?*' one needs to define what counts as a 'civil war' (Cartwright and Runhardt, 2015). *Is Netherlands doing well?* One needs to define what sort of progress 'well' implies. *Are migrants integrating into society?* One needs to define what society is and then compare how migrants are doing in relation to that. This is the constructivist approach that this dissertation takes on. It opposes the 'objectivist' approach that suggests "science unveil(s) things or draw(s) closer to a hidden reality" (Desrosières, 1998, p. 57).

A common practice we economists perform is to turn messy observations into measurements. As Morgan argues, "We don't see a macroeconomy, nor a consumer price index, nor an individual choice decision" (Morgan, 2001a, p. 236) just as we don't see inequalities and gaps with the naked eye. The world of the economist is not directly visible, Morgan continues, "(measurements) are not devices given by God for us to reckon his own preordained economy; they are the inventions of economists and we fit ourselves to their measures" (2001a, p. 249). These measures come in "general forms, categories of equivalence, and terminologies that transcend the singularities of individual situations" (Desrosières, 1998, p. 8). They do not simply reflect social realities but construct them.

We do this often without having a "recipe"(Morgan, 2001b; Boumans, 1999). We try and fail many times but when matched with pressing needs, right circumstances, proper institutional structures, our constructs can prove themselves real. All this happens gradually. "Like a new glove, awkward at the start, a new measurement

[3]For the Stratification Economics critique of the 'master narrative,' see Darity Jr (2005)

gradually becomes comfortable, though it may never fit tightly" (Morgan, 2001a, p. 249). Hence, we make *the economic* by establishing constructs and measurements within the space of the economics discipline as it is at the time (Charusheela and Zein-Elabdin, 2003).

Numbers and measurements are core to any modern economic policy. They inform policy makers about problems in which they can intervene (Yanow, 2003; Müggе and van der Haar, 2016). Economists did not study an "economy" before the 20th century but inquired into what the wealth of persons, peoples, and nations entailed (Breslau, 2003; Mitchell, 1998). It was with the invention of the business cycles and, later on the national accounts, particularly GDP, that entered the economic toolbox and allowed the economy to be seen as a single quantity that concerns everyone. Though we cannot see it by the naked eye or touch it with our hands, GDP has become 'a real quantity' on which state activities heavily rely (Boumans, 2022; Morgan, 2001a).

We can see the gaps between people when looking at the San Paolo picture, especially because of the physical wall that embodies those gaps. However, it is not these particular observations with which economists work. To turn these particular observations into useful measurements, we first need to give a general definition of that gap beyond the singularity of individual situations. First, we give the gap a name, such as 'inequality.' The word 'gap' is too vague; 'inequality' is more specific. Inequality exists across many dimensions, including income, wealth, education, health, and other resources and opportunities. We turn most of these dimensions into measurements in terms of shares of total income or wealth in a country, belonging to a portion of the income or wealth distribution. We can then construct a Lorenz curve that presents a graphical representation of the actual distribution. From the Lorenz curve, we calculate the Gini coefficient which reduces inequality to a single number.

Numbers are powerful. They make things visible, easily discussable, and even correctable by policy. In the San Paolo picture, it may be evident that there is something uneven. But we need constructs and names and numbers assigned to these constructs to express what is uneven and by how much. Only then, can we discuss what can be done, and how much. So, we economists construct the world often in an attempt to make it *fit all*. We reduce quality and quantities to single names and numbers in such a way that *one size fits all*.

The Gini coefficient is such a *one size* that aims to *fit all* gaps. If it is 0.2, many say we are happy; if it is 0.8, many say we need to do something about it. Piketty criticizes the use of the Gini coefficient arguing that it "was intended to sum up inequality in a single number, (but) it actually gives a simplistic, overly optimistic, and difficult-to-interpret picture of what is really going on" (Piketty, 2014, p. 344). According to him, the coefficient gives only an abstract and sterile view but cannot show the positions of individuals, which "is very simple and appealing at first glance but inevitably somewhat misleading" (ibid, p. 245). He proposes the use of distribution tables and decile ratios suggesting that they can indicate more about

who owns what. By 'who,' he means, for instance, those in top 10%, top 1%, bottom 10%, and bottom 1%. So, the Gini gives a sterile number for overall inequality and does not tell us how badly a person's situation is if in bottom 10% in comparison to those in top 1%.

Milanovic, another contemporary inequality scholar, argues that even when analyzed in decile ratios, inequality in within-country terms is also just *one size*. He shows that it can indeed be considered preferable to be among the richest Malians, yet the person will nevertheless remain poorer than the poorest Danish (Milanovic, 2012). In opposition to Piketty's emphasis on wealth expressed in shares, Milanovic suggests that what matters the most in our globalizing world is instead one's location. He demonstrates how one's income depends on the average income of the country where they live or were born (Milanovic, 2015). The question that summarizes this debate is the following: would you rather choose a specific share or the country in which you are born? There is no easy answer.

Desrosières argued, when large numbers of qualities and quantities are reduced to a small number of characteristics, "they constitute the moral attributes of the average man - an ideal intended by the Creator, a symbol of perfection" (Desrosières, 1998, p. 77). The *average man* is a *one-size* identity. It has many names in standard economics: *l'homme moyenne*, atomistic individual, *homo economics*, representative agent. *Ceteris* is *paribus* for this man. This one-size identity is so abstract that it seems timeless, placeless, as God's perfect creation. Standard economics sees the world through the filters of this particular reference, that is the *average man*. Our understanding, assessment, and treatment of wealth, wellbeing, and performance in any socio-economic dimension are often based on this particular, standard reference.

Hayek was concerned with "The sort of knowledge [...] which by its nature cannot enter into statistics and therefore cannot be conveyed to any central authority in statistical form" (1945, p. 98). His critique brings epistemological issues together with social control, suggesting that the central authority based on reductionist statistical information cannot take account of particular circumstances and hence would fail to coordinate adequately. But it is not only the central authority or the state that relies on this certain type of knowledge. The average man is at the heart of the workings of not only states, but also markets, the social fabric, and economists' science-making.

The contemporary inequality scholars guide big efforts for conceptualizing and measuring inequality and raise important questions about *what* and *where* but still not so much about *who* and *how*.[4] Piketty's individuals are mainly identified in terms of the share they belong to, while Milanovic's individuals are identified by the places where they are born. Their categories help to analyze inequalities *within* and *between* countries. But, in both *within* and *between* cases, there is much more to zoom in on for which the 'who' and 'how' questions matter for going beyond the

[4]Piketty's recent book (2022) presents some more recognition for the need to go beyond the shares and locations.

average man.

1.3 Identity and Exclusion

The examination of inequalities, the variety of their forms and underlying mechanisms requires going beyond the *average man* and taking the concepts of identity and exclusion into the center of our analyses to answer the questions of *who* and *how*. So, the first issue that requires structural examination is the problem of individuals and identity in economics.

Davis argues, "what people believe to be a conception of the human individual in economics is actually an abstract individual conception that represents individuals indiscriminately as single people, collections of people, parts of people, countries, organizations, animals, machines – indeed anything to which a maximizing function might be attributed" (Davis, 2011, p. 2). For Kirman, "representative agents represent each individual as if solving a complicated optimization problem faced with very well-defined constraints" (Kirman, 2011, p. 19). Individuals in this standard economic view are identical to their utility functions. Rationality theory then explains all behaviors as "utility maximizing in every possible circumstance and situation individuals may encounter. No matter how the world is organized or institutionally structured, individuals always behave in one single way" (Davis, 2021, p. 87). This single way is *one-sized* behavior: when we assume that individuals with a *one-sized* identity maximize their utilities in a rational way, we expect their behaviors to appear in this *one-sized* way.

Nonetheless, this *one-sized* identity has been challenged for some time, especially by the impact of behavioral science on economics. Evidence proves the perfect rationality and utility maximization are mistaken assumptions about human behavior. New approaches challenge the traditional individual conceptions and provide us with the multiplicity of accounts about how people actually behave. As Davis argues,

> One way to correct this failing (of the rationality assumption) is to incorporate the concept of identity into how economics characterizes individuals. Asking how we identify individuals ties their behavior with 'who' they are (Kirman and Teschl, 2004), who they are reflects how they occupy the world, and in principle this allows us to determine whether our characterizations of their behavior are refutable–that is, whether these characterizations fit what we observe about the world. One might say attention to identity dampens the universalism most standard rationality accounts of behavior assume (*ibid.*).

Some of the new approaches in economics bring in identity in an attempt to engage the question of 'who' and 'how' that matters for economic outcomes. Akerlof and Kranton (2000, 2002, 2010) are the most well-known; so much so that there now exists a sub-field called "identity economics." They have found a practical way to incorporate social identity into a general utility function as a motivation for

individual behaviors. With their account, we can now examine better why people behave in ways that we would not have expected them to do according to rationality theory. Despite its explanatory power about identity and exclusion., their methodological strategy does not go beyond extending the traditional rationality account and thus reproduces the myth of utility maximization.[5] Akerlof and Kranton's identity conception and adjusted rationality account do not give us a fundamentally new account of who individuals are, or how not only their behaviors but opportunities that they get in different walks of life are affected by who they are.

Identity, or who the individuals are, has been a question in philosophy and social and political sciences for a long time. Davis defines 'social identity' as who persons are by their collections of social group characteristics, and 'personal identity' as a second order identity that organizes them. Individuals in this approach are socially embedded, interacting with each other, and changing over time, albeit while remaining subject to their capabilities. A person can be a Dutch man by the category given by birth (given identity), and then self-identify himself as a world-citizen with no particular attachment to this national identity (personal identity). It is not easy to distinguish the behaviors, actions, and treatments that the person gets regarding these seemingly conflicting identities. Some of them are active at times, while others are deactivated. For instance, when a person is crossing a border, only the passport will be used that shows only one identity, namely the person's nationality, e.g., 'Dutchness,' while the other identities are irrelevant and thus deactivated. In other times, this person will be a world-citizen and will distinguish himself in his behaviors from his Dutch fellows. Moreover, no matter how open-minded he is, he will be treated with regard to his Dutchness and maleness, even if he is not consciously aware of them, often in a privileged way in comparison to, e.g., a Muslim woman, or a trans man in the Netherlands. Every person is a composition of given and acquired identities, but also learns how to perform and adjust them in different contexts.

Despite the fruitfulness of this discussion of what identity is and entails, a particular aspect of it that matters for the main thesis of this dissertation is that it is constructed not only by individuals themselves but also by others in such a way that one's opportunities depend on this. Identities can also be seen as a mark, label, a category of who persons are, even without one's awareness or consent to be identified with them. Shakespeare (*Hamlet*, Act 4, Scene 5) wrote, "We know what we are, but know not what we may be." I suggest, what we may be is constructed and embedded by social and political powers. Darity Jr et al. (2006, p. 290) paraphrases Marx about this, "Individuals construct their own identity, but they do not construct their identity just as they please; they do not construct it under circumstances chosen by themselves, but under circumstances encountered, given and transmitted from the past (Marx, 1963, p. 15)." Therefore, it is not only *who*

[5]For extensive reviews of Akerlof and Kranton approach as well as other identity accounts in economics, see (Davis, 2003, 2007, 2009, 2011)

persons are, but also *how* they are looked upon and are treated with respect to that.

The question of *how* brings in the second issue that requires a systematic examination: the problem of exclusion based on individuals' identities. van Staveren and Pervaiz (2017) define social exclusion as the way in which social groups relate to each other. They suggest looking at not only negative economic outcomes such as unequal incomes, but also exclusion in variety of other ways. They argue,

> Horizontal inequality (of social exclusion) [...] occurs along the lines of the social groups themselves—not in terms of income (that is vertical inequality) but in terms of identities, rights, opportunities, capabilities, and voice. In the case of horizontal inequalities, complete groups of people are largely excluded from society and the economy. This affects their access to assets, market opportunities and public goods (van Staveren and Pervaiz, 2017, pp. 724–725).

Thus, exclusion matters in two different ways: it not only creates different economic outcomes for different groups but also affects some groups' access to the parts of the economy, even before leading to direct economic outcomes (see also Hamilton 2000).

How does exclusion take place? The usual suspect for exclusion is discrimination. Discrimination can be defined as differential treatment of individuals based on their group status and characteristics such as based on gender, race, ethnicity, and sexual orientation rather than individual capabilities. Despite the lack of explicit analysis of identity and exclusion, discrimination has long been dealt with in standard economics especially in the analysis of labor markets but also in education, vocational training, and social security systems, among others (Ruwanpura, 2008).

Discrimination is a challenging concept both theoretically and in its measurement.[6] It stems from the idea that wages should reflect workers' individual productivity. Thus, wage gaps are explained by human capital differences that result from skills acquisition such as education, training, and experience. A typical approach to discrimination then is to measure all these factors and consider the difference between the sum-total of these measurements and the actual wage as a measure of discrimination. Thus, discrimination is in this way seen as a residual that cannot be explained by human capital differences.

The economics of discrimination suggests there is discrimination when an individual is treated differently despite having similar economic endowments and capabilities in human capital terms as others because of a systematic link with the individual's group attributes (Stiglitz, 1973). For instance, the human capital approach cannot fully explain the wage differential between blacks and whites in the US as the gap remains even after controlling for human capital differences (Darity Jr, 1982; Mason, 1999). The gender wage gap can be explained in terms of

[6]See for instance a recent roundtable discussion on measuring discrimination and inequality, Lippert-Rasmussen et al. 2022.

labor-force participation (Mincer 1962, Goldin and Katz 2002) and experience and work hours (Mincer and Polachek 1974). Other studies show that these explanations based on individual choice and human capital can only explain a small part of wag gaps (Blau and Kahn 2017, Paul et al. 2022).

The standard account of discrimination in economics goes back to 1950s. It predominantly relies on two discrimination models: taste-based discrimination and statistical discrimination; both address the question of why discrimination happens. Gary Becker's (1957) taste-based discrimination treats labor market discrimination as pure dislike, translating racial and gender prejudice into the language of economics. As Borjas observes, the approach suggests that "the costs and benefits of an economic exchange depend on the color and gender of the persons involved in the exchange" (Borjas, 2013, p. 367).

The approach makes a relevant point even for today's progressive policymaking (Ruwanpura, 2008): employers' taste for discrimination including prejudice imposes costs on employers and hence is economically inefficient (Becker, 1957; Krueger, 1963). If an employer has a "taste for discrimination," their action shows they are "willing to pay something, either directly or in the form of a reduced income" (Becker, 1957, p. 15). Thus, both sides in the transaction suffer from the discriminator's irrational and suboptimal decisions. With the imposition of this extra cost, the model suggests that in competitive markets discrimination should disappear in the long run (Lang and Spitzer, 2020). Borjas shows that this fundamental implication is flawed in that it "assumes that all firms face the same production function. If discriminatory firms are more efficient and can produce output at lower costs, they can persist in their discriminatory behavior" (2013, p. 374–375). Small (2022) makes a more general point about this implication: the models of perfect competition do not leave much room for discrimination to persist.

The second economic discrimination model is statistical discrimination (Arrow, 1971). The fundamental assumption of this model is the asymmetry of information between two economic actors. When one economic actor (e.g., an employer) has imperfect information about the other actor's individual productivity, the first actor uses information (or beliefs) about the averages of the group characteristics to which the other is supposed to belong. Thus, group characteristics are subjectively used as an indication of productivity. An illustration is recruiters who use names of job applicants to make inference about their race, which then have a significant impact on their employment opportunity (Bertrand and Mullainathan, 2004).

This statistical approach is different from the taste-based approach in two ways. First, the discrimination is not based on the taste of the recruiter but on the information they have. As shown in the previous illustration, the recruiter does not avoid hiring an individual due to pure dislike of their race, but because they associate their race with a harmful characteristic for productivity such as laziness. But dislike and making such an association are hard to distinguish or isolate from each other; they often go hand in hand. What might seem a prejudice or taste might result from imperfect information and beliefs, or the other way around (Barocas

et al., 2019). Discrimination can occur directly and intentionally as an outcome of taste, but also indirectly, which one can see only by looking at unequal outcomes without understanding whether or not, and if so how the discrimination had occurred (Ruwanpura, 2008).

Second, statistical discrimination does not necessarily impose a cost on employers but can benefit them if an employer's assessment of an individual based on group generalization is a correct judgement of the individual's productivity. Despite this potential for economic gain, the underlying assumptions of the approach have nevertheless significantly negative implications. It assumes that a group can be attributed negative characteristics, such as being lazy or to making more mistakes in the workplace. These assumptions create the risk of (re)producing stereotypes with the result of harming certain groups.

Both approaches miss a relevant issue about identity. They do not take the negative feedback and consequent self-fulfilling prophecies into account. For women's case, Nancy Folbre argues,

> Employers may engage in statistical discrimination against women because—regardless of their current marital or motherhood status—they are more likely than men to take time out of paid employment. Evidence suggests that employers considering written job applications are particularly likely to discriminate against mothers (Correll, Benard, and Paik 2007). Statistical discrimination against women in general and mothers in particular illustrates how gender identity—rather than individual characteristics—affects labor market outcomes. (Folbre, 2018, p. 756)

When women know or think that they will be paid less than their male partners or that they will not get promotion no matter how hard they work, they tend to get discouraged from participating in labor markets and hence encouraged to stay home. Notice that for these cases in which women stay home, this outcome does not display the pre-market and therefore a complete dimension of discrimination.

Julie Nelson (2016) criticizes the view that statistical discrimination may treat women fairly as a group irrespective of whether it disadvantages some women individually. She argues that this line of thought has double standards: if treating women as a group is allowable, then it should be the case for men as well, for instance by affirmative action for women that might disadvantage some men individually.

Both taste-based and statistical discrimination accounts result in discriminating treatments of workers based on their group identities such as belonging to a certain race or gender. Therefore, both accounts demonstrate what this thesis aims to emphasize: not just *who* persons are but also *how* they are looked upon influences their opportunities and the lack thereof.

However, this thesis diverges from these standard accounts with respect to a critical point, namely the implication that discrimination might lead to a correct assessment of productivity based on the underlying assumption that this 'imperfec-

tion' would disappear in competitive markets. These accounts imply that remaining gaps cannot be a result of continuous and therefore persistent discrimination. However, an increasing amount of literature demonstrates this is not the case. Gibson et al. (1998) argue, "Although African Americans have made significant economic progress since the Civil Rights Movement of the 1960s, the racial gap in economic well-being remains stubbornly persistent. Black unemployment is double white unemployment, black poverty is triple white poverty, and nearly half the nation's black children live in households with incomes below the poverty line" (pp. 73-74). Chetty et al. (2020), on the other hand, present evidence for persistence of racial inequalities in variety of terms, including lower mobility for blacks in the US than whites. What explains this persistence? Both discrimination accounts seek to explain discrimination in labor markets with insightful arguments, but fail to explain its persistence, and even more so, group identity-based exclusion in its variety of forms.

An exception on the early work of discrimination is Barbara Bergmann's Occupational Crowding Hypothesis. Bergmann was a lifelong Feminist and Harvard-trained economist who was among the founders of the International Association of Feminist Economics in the 1990s that aimed "to challenge patriarchal power both in the economy and in the economics discipline" (Small 2022, p. 1209). As Small (2022) points out, the unique perspective that Bergmann had differed from those of the other prominent economists of the time such as Becker and Arrow because they had not faced gender or race-based discrimination as Bergmann had as a Jewish woman.

In opposition to the self-clearing market assumption, Bergmann posited that discrimination leads to segregation in labor markets, which provides a fundamental explanation for the persistence of discrimination. Using evidence from the US, Bergmann (1971) shows that discrimination sorts black men into particular occupations, which then leads to over-supply of workers and lower wages for those occupations. In her 1974 paper, Bergmann studied further the gains employers get from particularly the cheap labor of black men. Stiglitz (1973) joined Bergmann's critique of the early discrimination models by highlighting the association between discrimination and market failures broadly.

Bergmann's crowding hypothesis is still used in analyzing racial disparities in labor markets (see Hamilton and Darity 2012, Willow 2011, Gibson et al. 1998). Further work on race and gender-based occupational segregation suggested an account of 'dual labor markets' (e.g., Doeringer and Piore 1971, Blau and Jusenius 1976, Wachtel 1992). It draws a distinction between a white core that is characterized by high wages and occupational opportunities, and the black periphery that is characterized by low wages, high competition, and limited occupational opportunities (Reich et al., 1973; Darity Jr, 1975; Ruwanpura, 2008). Further research has shown black men's crowding into low wage occupations (Gibson et al., 1998; Hamilton et al., 2011), and women's crowding into 'pink collar occupations' with lower wages (Hartmann, 1976; Beller, 1982; Albelda, 1986). With the changing de-

mographics in the US, also African American, white, Latina, and Asian women, are crowded into low-wage occupations (Holder, 2018).

Today, occupational crowding and segregation continues to be present in labor markets. Yet the explanations of its underlying causes continue to be contested. Borjas (2013) presents the current situation: "fewer than 5 percent of aircraft engine mechanics are women, but over 95 percent of kindergarten teachers and receptionists are women." He then argues that this crowding does not necessarily come from employer's discrimination but "may simply be the result of a social climate in which young women are taught that some occupations "are not for girls" and, thus, are channeled into "appropriate" jobs" (2013, p. 405). While this may indeed be the case, his point does not take into account many other dimensions and mechanisms that may play a significant role in what might seem an individual choice and what may better explain the distinction between exclusion and discrimination. Despite the variety of ways discrimination takes place, it is understood to be direct and individualistic. The concept of exclusion is at the heart of the segregation process. It not only includes but even emphasizes indirect, pre-market, and structural discrimination among variety of mechanisms that contribute to the persistence of gaps between different groups.

Despite the increasing documentation of the research pursued to explain the presence and difference of discrimination and exclusion, Becker's model has remained in the center of labor market analysis. Most economics students learn about labor market discrimination as frictions that come from a taste for discrimination or incomplete information about individual productivity, that come with a cost and thus likely to disappear in the long run. The evidence on the persistence of discriminatory and exclusionary labor market practices debunks the fundamental assumption and implication of these models that the competition would eliminate them. The current literature keeps documenting that discrimination continues in the form of unexplained wage gaps, crowding, and gap in hiring decisions, among others (Darity and Mason 1998, Agesa and Hamilton 2004, Blau and Kahn 2017, Daly, Hobijn, and Pedtke 2017, Quillian et al. 2017, Paul et al. 2022). Thus, there is a strong case to bring discrimination and persisting exclusion based on people's identities into the center of our understanding of inequalities, and how our economies and societies function, in general.

1.4 Inequalities beyond the *average man*

The issue of identity has long been seen as a niche issue in economics with some exceptions. Current social, political, and scientific movements challenge the 'normality' of the 'average man' and aim at defining people's identities not in terms of their deviation from this reference. In our current day, I suggest we be confronted with the breakdown of this reference point. Identity beyond the *average man* matters; it explains the inequality gaps of our day and debunks the common view that presents average man as the norm.

There are compelling alternative approaches to the standard economic approach, such as Stratification Economics and Feminist Economics, that are gaining increasing recognition and engagement in explaining what is at stake. These fields focus on economic and political institutions in search of a deeper, systemic, and intersectional understanding of the mechanisms behind inequalities by looking at the interplay between identity and structurally discriminating and excluding labor markets and their consequent inequalities.

These approaches turn to occupational crowding as an explanation of labor market discrimination, and as a mechanism to maintain group privilege, in a different way than the standard approach based on individual rationality and self-clearing competitive markets. These alternative approaches suggest that the exclusion and discrimination can have a persistent, structural, and functional role in preserving hierarchy of social groups based on identities (Darity Jr and Mason, 1998; Bertrand and Mullainathan, 2004). Institutions contribute to this role by benefiting one group over the other, such as men over women (Folbre, 1994; van Staveren, 2013; Sent and van Staveren, 2019). Thus, identities bring advantages and disadvantages; they privilege one group while penalizing the other. I suggest these approaches are better equipped to understand complex and multi-faceted gaps and inequalities of our day, and their underlying exclusion mechanisms.

Feminist economics argues that power relations and economic, political, and social processes are embedded in each other (Power, 2004). It posits that gender norms have a significant role in the division of labor especially because of the care responsibilities that are disproportionately put on women's shoulders (Hartmann, 1982; Folbre, 1994, 2018; Nelson, 1995). Becker (1991) suggested that women have a comparative advantage in care work and thus such a division is efficient. Feminist economists, Nancy Folbre in particular, look at the other side of the story: Care responsibilities exclude women from labor markets and imposes a high financial penalty upon them in terms of low earnings and low bargaining power. Women get crowded out of the labor market or when working, into lower paid occupations. Folbre calls this 'care penalty' (2018); others specify it further as 'motherhood penalty' in the case of taking care of one's own children (Albanesi and Olivetti, 2009; Goldin et al., 2017; Jee et al., 2019).

Women's exclusion is not limited to labor, and what happens to them in the labor market. In her recent book, Criado-Perez gives us an account of the world that is designed for men that systematically leaves women invisible. She tells the story of "what happens when we forget to account for half of humanity [...] in urban planning, politics, the workplace" (Criado Perez, 2019, p. 25). She argues that the default male is presented to us as an objective fact, yet this has "all been distorted by a failure to account for half of humanity, [which is] a corruption in what we think we know about ourselves, [that] has fueled the myth of male universality" (Ibid., p. 21). She notes that none of this means women are excluded deliberately from all walks of life in one way or another, but the outcome and the prevalent mechanisms lead to this male neutrality so much so that what seems neutral to us

is highly gender biased. Thus, exclusion goes beyond labor markets and is effective in creating variety of undesired outcomes.

Stratification economics puts the focus on the link between identity and intergroup inequality (Williams, 1993; Darity Jr, 2005, 2009, 2022; Burnazoglu et al., 2022a,b). It acknowledges that "there are material benefits that redound to dominant groups that motivate their efforts to maintain privilege" (Darity Jr, 2005, p. 144). In this approach, reinforcing mechanisms of such privileges are crucial to understand their persistence (Darity Jr et al., 2014; Stewart, 2010). For Stewart, group positions are "produced forms of individual and collective property with both income and wealth generating characteristics and whose supply and demand are responsive to changes in production costs and budget constraints" (Stewart, 2008, p. 803). Arestis et al. (2013) carry this argument further and suggest that presence of gender and ethnic disparities are 'produced outcomes' of investments in social norms that reproduce and perpetuate privileges for particular groups over the exclusion of others. They illustrate this point for a specific case:

> The existence of gender and ethnic inequalities during the financialization process and the Great Recession is the result of structural and intentional processes generating hierarchy and disparities in the US labor force. [...] Newly created or reinforced social norms have interacted with fair-wage constraints and exacerbated the gender and race stratification of the US labor force during the 1983–2009 period (Arestis et al., 2013, pp. 158–9).

Hanna Szymborska has shown similar results, in particular that female-headed households are more vulnerable to financial shocks in comparison to male-headed ones (2019), and that gender wealth gap has increased after the Great Recession (2022). Moreover, Lemke (2015) (re)addresses the hierarchical nature of social, economic, and political institutions in that they systematically vary according to characteristics like gender, race, and caste. She argues that counting on the role of social structures is useful and needed, even for the Austrian economist that adheres to methodological individualism. She emphasizes this need in the presence of three conditions: "Political institutions establish rules that apply to some individual and not others; these rules are constructed in such a way that individuals cannot easily move in and out of the established groups; (and) some of the groups created by this process hold authority over others, establishing hierarchical relationship" (Lemke, 2015, pp. 227-8).

Gender and race can explain the persisting gaps, but the intertwined and thus intersectional nature of these identities prohibits simple explanations (Williams 1987, Darity and Mason 1998). For Paul et al. (2022), different combinations of identities give people different degrees of privileges or penalties. Moreover, Ruwanpura (2008) urges for examining intersectionality of multiple identities for understanding complex discrimination mechanisms. She criticizes mainstream economic theories that overlook the link between institutions and social group identities. Remaining embedded in the concept of atomistic individuals, these theories neglect multiple

identities and their connection with discrimination. Ruwanpura proposes that we need to employ a multiple discrimination framework based on multiple identities to be able to recognize the complexity of discrimination in real world systems. She illustrates this point with the intersectional role of patriarchy, that in the West, typically white men constitute privileged social groups. Building upon the works of Williams (1987), Darity Jr and Mason (1998), and Mason (1999), she suggests "the ways in which upper-class, white working men have utilized a variety of political, cultural, and economic assets, including networks and social capital, to secure privileged labor market outcomes in the West have to be addressed in any analysis of labor market discrimination" (Ruwanpura, 2008, p. 80).

With white men being the privileged group in the West, black women face the double burden; they are at the "bottom of the earnings and occupation hierarchy and have not benefited to the degree that white women have from the recent decrease in the gender wage gap" (King, 1995, p. 26). Such intersectional penalties have persisting implications in labor markets (Kim, 2009; Woodhams et al., 2015; Bryson, 2017). Thus, identities including multiple and intersectional group identities matter for exclusion and thus need to be at center of our analysis of inequalities going beyond the one-dimensional *average man*.

Criado-Perez calls for change and closing the gender gap. As she explains, "For too long we have positioned women as deviation from standard humanity and this is why they have been allowed to become invisible. It's time for change in perspective. It's time for women to be seen" (Criado Perez, 2019, p. 25). She extends her arguments about the gender gap to identities in general and attempts to bring identity back in arguing that "identity is a potent force that we ignore and misread at our peril [that many] global phenomena [...] are at heart identity-driven projects. But misreading and ignoring identity is exactly what obfuscating maleness under the guise of gender-neutral universality causes us to do" (p. 21). Objectivity, rationality, universality all appears for default man ("reference man"). But "seeing the world from a female perspective [...] is niche, ideological" (p. 22). The common opinion is "that identity politics is only identity politics when it's about race or sex; that race and sex have nothing to do with 'wider' issues like 'the economy,' [...] when you have been so used, as a white man, to white and male going without saying, it's understandable that you might forget that white and male is an identity too" (p. 23). She refers to Pierre Bourdieu, "what is essential goes without saying because it comes without saying: the tradition is silent, not least about itself as a tradition" (Bourdieu, 1977, p. 12), and continues,

> Whiteness and maleness are silent precisely because they do not need to be vocalized. Whiteness and maleness are implicit. They are unquestioned. They are the default, [...] it leads to positioning of women, half of the global population, as a minority, with a niche identity and a subjective point of view. (Criado Perez, 2019, p. 23)

The mechanisms that perpetuate this biased world are embedded in our understanding and actions. They are also embedded in our one-size-fits-average-man

type of modeling, measurement, and policymaking. How we construct things with science is political. Not only does identity bring 'who' and 'how' questions into economics; it calls for a critical political economy to investigate the power dynamics that underlies the inequality gaps of our day. Laurie Penny said, "All politics are identity politics, but some identities are more politicized than others" (Penny, 2017, p. 8). This applies to economics, too: All economics is identity economics, but some identities are more 'economized' than others, such as that of the average man.

Times are changing but gaps keep persisting. In our economies and societies, individual and group identities can explain how people are treated and perhaps excluded. This has become more commonly acknowledged. For example, the recent Human Development Report by UNDP states,

> Across the world, inequality tracks differences of social identities such as gender, race, ethnicity, religion, caste, class and sexual orientation—arbitrarily marking some social groups as superior to others in the opportunities they enjoy, the powers they command, and the respect others owe them. Under such conditions members of subordinated groups lack effective means to vindicate their human rights, even in states that legally acknowledge these rights. (UNDP 2019, p. 89)

How we understand and hence model and measure inequality gaps matter. As Waglé puts, "The measurement of poverty and inequality serve as the tools necessary to assess the degree of social injustice and find possible ways to reduce it" (Waglé, 2013, p. 85). Structural explanations are called for, for instance in the UNDP Human Development Report 2019, to develop ways to measure emerging new forms of inequality: "Good policies start with good measurement, and a new generation of inequalities requires a new generation of measurement. Clearer concepts tied to the challenges of current times, broader combinations of data sources, sharper analytical tools—all are needed" (*Ibid.*, pp. 3-4).

Studies especially from feminist and stratification economics increasingly show that neutral appearing policies have gender and race differentiated effects and may exacerbate existing inequalities. They illustrate how remedies of seemingly identity specific policies, such as public spending in childcare and social care, may impose extra costs on economies but in effect have positive effects on productivity and stimulate growth (Berik et al., 2009; De Henau and Himmelweit, 2021; Onaran et al., 2022). Moreover, accounting for identities, their intersectionality, and consequent outcomes in our analysis helps us deepen our understanding of the real-world dynamics and the policy interventions that are needed to improve it (Paul et al. 2022).

Thus, who people are and how they are seen, labeled, and consequently treated matter, and so do how we make science and politics about it. As can be understood from this introduction chapter, this dissertation is rooted in the questions of identity and exclusion broadly. Its ultimate aim is to contribute to opening the

black boxes of the inequality gaps, identities, and the mechanisms that produce and reproduce a structural relationship between them. However, due to practical restrictions of any doctoral dissertation must have, it is primarily applied to the study of migration and integration. It bridges various approaches and literatures such as the standard approach and stratification and feminist economics with the empirical phenomena of migrants' integration in an original conceptual way. With that, the dissertation presents a political economy of identity and identity-based stratification mechanisms in migration and integration-related analysis of markets and policy, with an aspiration to contribute to the understanding of the workings of the stratification mechanisms of other identities, too. It is a thesis in political economy in that it is motivated to reflect the complexities and nuances of real-world mechanisms and to move forward the attempts to include identity in our understanding of power relations that are embedded in our economies and societies.

Furthermore, the dissertation takes a constructivist approach to the question of identity to explain the ways in which identity-based stratification mechanisms operate in markets and policy. I argue that our knowledge production, hence knowledge construction, that operates with one size such as the average man is political in the sense that our epistemological activities lead to, or at least reproduce ontological consequences in terms of the inequality gaps of our day. I hope to demonstrate that neglecting power and identity by no means make them non-existent, but only invisible. And I suggest, we need to place them at the heart of our analysis by opening the black boxes of underlying mechanisms of our day.

The main methodology of the dissertation is conceptual; the approach involves a theoretical analysis with a combination of literature research and case studies research.[7] The strength of this approach is that it can bring variety of accounts together and provide an overview of the suggested original framework. Feminist literature, for instance, shows mainly the gender side of identity-based inequalities while stratification economics emphasizes other racial identities and their role in maintaining power relations. The thesis grounds itself in these theories, exposes standard approaches to critique, but also goes beyond them by suggesting an identity-based stratification framework in application to migrants' integration. The originality of the thesis lies in its novel conceptual framework as a result of this approach.

The main limitation of the present selection of methods and approaches is the lack of an original quantitative analysis. Quantitative analysis in the form of data examination would certainly strengthen the present analysis further. The questions this thesis rises are ultimately empirical questions and to be engaged in further research.

The dissertation proceeds as follows. *The second chapter* starts with revisiting the standard approach to migrants' integration. It uses standard search and matching theory as an analytical tool to understand migrants' search, and the in-

[7] "The kind of theoretical work, (...) that is in touch with a world" (Ahmed, 2017, p. 10)

teraction between migrants and destination societies as matching events. I present problematic points in the standard economic approach that result from misconceptions and oversimplifications associated with the heterogeneity of labor migrants and the complex nature of their interactions with their environment in integration processes. For that, we need to explain frictions in integration endogenously, which I argue to be important determinants of integration outcomes. I then propose a *social identity-based matching approach to migrants' integration*, characterizing integration to be into established social systems.

The third chapter starts with a question: What explains the gaps in migrants' integration? To provide an answer to this question, it raises the issues of structural exclusion in labor markets, and the role of power and institutions in migrants' labor market integration. I suggest revisiting exclusion in the goods typology to discuss the connection between who migrants are and how they position in socio-economic systems in the post-migration integration processes. I define social stratification traps based on this exclusion account and suggest this as a deeper way to address present inequality outcomes in integration processes in contrast to a skills-based understanding.

The fourth chapter presents a new concept, *algorithmic stratification*, as a showcase for identity-based structural exclusion mechanisms. It investigates the ways in which the workings and use of algorithms contributes to the social reproduction of a stratified society by 're-ontologizing' identities and thus society. It brings the questions raised in the previous chapters together with technological tools and extends the identity-based structural exclusion cases from those of migrants to other identities such as race and gender. It presents mechanisms of algorithmic stratification in three steps: data, design, and use, in application to mainly the EU Skills Profile Tool used by the European Commission and briefly a Dutch Welfare Surveillance Programme "SyRI" (for 'system risk indication')."

The fifth chapter closes the dissertation with some conclusions and an indication for future research.

CHAPTER 2

An Identity-based Matching Theory Approach to Migrants' Integration[1]

> "My identity cannot be compartmentalized; it cannot be split in halves or thirds, (...). I do not have several identities, I only have one, made of all the elements that have shaped its unique proportions."
>
> (Amin Maalouf 1996)

> "The meeting of two personalities is like the contact of two chemical substances: if there is any reaction, both are transformed."
>
> (Carl Gustave Jung, 1933)

2.1 Introduction

In the aftermath of Europe's guest workers experience, journalist Max Frisch said, "We wanted a labour force, but human beings came[1]" (1965). Europe had received thousands of people for its post-war recovery process and those who were supposedly worker migrants had been expected to leave when they were no longer needed. However in the end, most of them stayed and integrated into society in different

[1]This chapter is partly based on the following publications: Burnazoglu (2021). "An Identity-Based Matching Theory Approach to Integration," *Forum for Social Economics*, 50:1; Burnazoglu (2020). "Built-in normativity in tailoring identity: the case of the EU skills profile tool for integrating refugees," *Journal of Economic Methodology*, vol. 27, no. 2, 117–29, and Burnazoglu et al. (2022a) "Stratification Mechanisms in Labor Market Matching of Migrants," *forthcoming in Cambridge Journal of Economics*.

[1]The original quote in German is "Wir riefen Arbeitskräfte und es kamen Menschen" as cited in Sunata, 2011 *Highly Skilled Labor Migration: The Case of ICT Specialists from Turkey in Germany* (p. 275). To the day, this quote has served as a slogan to emphasize that migrants were not only machine-like workers from which countries can benefit and then expect them to leave without any social consequences when they were no longer needed.

degrees. So it was obvious that they were not only a labor force but also human beings.

Standard economic theory has tended to conceptualize migrants as atomistic economic agents who seek to maximize utilities by migrating and are mostly self-regarding and act in isolation. But we cannot understand people on the move only by assuming a single reason behind their behaviors and decisions. Instead, we should understand migration as a movement of heterogeneous individuals with many identities to new societies for multiple reasons. Moreover, integration is understood as the labor market integration that is about the increase in earnings to the level of those of natives. This view is very limited in that it lacks a social basis at the cost of ignoring the complex social dynamics of integration. In contrast, migration studies consider integration as the process of becoming an accepted member of a society (Penninx and Garcés-Mascareñas, 2016). In this view, once people migrate to a new place, they integrate into that new environment in multiple ways and by various degrees. In line with that, integration in the post-migration process needs to be understood as previously different people's different ways of adapting into new societies. Integration outcomes also differ as much as individuals differ in their migration motivations and social identities.

This chapter proceeds as follows. In section 2.2, I review the standard economic approach to migrants' integration. In section 2.3, I argue that we need to go beyond standard approach and try to understand the sources of frictions in integration. In section 2.4, I argue that we should explain post-migration integration in terms of identity-based matching between immigrants and social groups, switching the basis for motivation from prices to social identities, in order to explain migrants' interactions in destination countries in terms of individual-to-group types of interactions rather than in terms of individual-to-individual types of interactions that standard approach employs. Thus, I propose a shift from an isolated individual economic matching approach using the market mechanism to an identity-based matching theory approach using social interaction to explain migrants' integration. The last section concludes the chapter by pointing at the necessity to understand integration to be into *established social systems*.

2.2 Revisiting migrants' integration

Migration is the movement or relocation of people from one place to another in pursuit of certain objectives. These relocations and objectives are used to distinguish different migration types from each other. The locational change can be across or within borders. The objectives can be, for instance, work or family reunification. International labor migration is one of these types and also the one that is most frequently studied in economics. A labor migrant can be defined as "a person who goes from one place to another especially to find work" (Arnold, 2017, p. 1). According to the OECD numbers, labour migrant trends seem to be decreasing in percentage in comparison to the other types (OECD and EU 2016); however, ILO

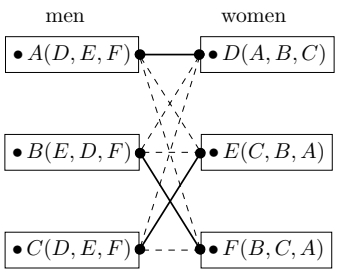
estimates have shown that the number of migrant workers in the world was about 150 million of the total migrant population of 232 million in 2013 where the term "migrant worker" is defined as "international migrants who are currently employed or are unemployed and seeking employment in their present country of residence" (ILO, 2015).

Integration, on the other hand, is the process of becoming an accepted member of a society (Penninx and Garcés-Mascareñas, 2016). Once people migrate to a new place, they integrate into that new environment in multiple ways and by various degrees. I suggest that the formation of social relationships offers a deep theoretical understanding of how migrants integrate and why we observe various integration outcomes in reality. For analyzing the formation of social relationships within the context of migration and integration, I propose to use standard search and matching approach as an analytical tool to understand migrants' search, and the interaction between immigrants and destination societies as matching events.

Search theory assumes that individuals search for and choose an optimal strategy from a set of potential opportunities. Choices should be made as quickly as possible to avoid the time cost in decision problems. Matching theory also explains the matching of agents in one set with agents in another. A matching function is like production function; it represents the formation of new relationships between available agents. By using this tool, relationship formation problems are turned into structured matching issues and, therefore, become standard optimization problems that are subject to constraints in different matching cases.

The basic idea of matching goes back to *stable marriage problem*, which is also known as Gale and Shapley Algorithm (1962). It is a one-to-one model, concerning the matching of individuals in two gender sets for a purpose of getting married. In the Gale and Shapley's model, each man and each woman strictly rank the members of opposite sex with respect to whom they would like to be married. As seen in the example demonstrated on Figure 2.1, agent-A prefers agent-D to E, and E over F. The same logic applies to all other agents: the letters in the brackets show their ranking of the agents in the other set. The algorithm runs with the agents in the men set proposing to marry, and the others in the women set accepting or rejecting the proposal. So, first agent A proposes to his most preferable agent that is D; D accepts because this is the first proposal she gets. Then agent B proposes to his most preferable that is agent E; E accepts because this is the first proposal she gets. Then agent C proposes to his most preferable that is agent D; D does not accept because she has already matched with agent A who is most preferable to her. Agent C then moves on to the next women in his list, agent E. Agent E had previously matched with agent B; however, because she prefers C over B, she unmatches B and accepts C. Then agent B becomes unmatched, and moves on to the next woman in his ranking that is D but D is already matched with agent A who is most preferable, so she rejects. Finally, B moves on to the next person in his list, agent F, who accepts the proposal as she was unmatched and available. As a result, the algorithm stops when everyone is matched up with the best available

option in a stable way. Gale and Shapley show that there is always a stable marriage allocation. In the given example, the stable marriage allocation requires agent-A to match with agent-D, B with F and C with E as the thick lines in the figure demonstrates.



$$M^*\{(A,D),(B,F),(C,E)\}$$

Figure 2.1 An example of the Gale-Shapley Matching

In economics, the theory is used for analyzing the formation of mutually beneficial links between economic agents. It has been used especially in labor market analyses where the goal is to model exchange processes in the market by a well-behaved function that sums up the encounters between workers in search of jobs and firms with vacancy positions (Cahuc et al., 2008).

Search and matching in the context of migration has also been understood to be a labor market phenomenon. Two economic approaches have dominated the standard literature in labour migration theory[2] The first is the neoclassical approach that takes immigration to result from wage differentials (Hicks, 1932), and the second is the human capital approach that takes it to be a lifetime human capital investment.

The neoclassical approach that takes immigration to result from wage differentials (Hicks, 1932) has a strong link to labor economics and development issues (Harris and Todaro, 1970). The neoclassical theory of immigration lies at the center of labor economics (Borjas, 2013). From a microeconomic perspective, migration is explicitly explained as labor migration in economic development process. John Hicks (1932, p.76) argued that "the differences in net economic advantages chiefly in wages are the main causes of migration." Todaro (1969) extended this idea to explain migration from rural to urban regions. Since then, the main reason for people's mobility has been seen as wage differentials between regions or countries (e.g., Harris and Todaro 1970).

On this view, the relocation decision is made by rational individuals using cost-and-benefit analysis: if the result is expected to provide them with a higher net

[2]For a broader survey of the theories of migration, see Abreu 2012.

return in terms of earnings, they are assumed to migrate. This utility-based approach can be expressed as follows:

People move if,

$$\text{U (income in destination} - \text{migration costs)} > \text{U (income in origin)} \qquad (2.2.1)$$

or stay if otherwise (Bansak et al., 2015).

While early theories consider the issue as a single person decision, later the necessity of accounting for the influence of family and friends is introduced as an important factor in the decision process. In the family migration decision model, Mincer (1978) studies the migration decision as a two-persons-decision problem. He shows that the income that affects the decision includes both income of the first and the second person. The decision is positive or negative depending on the signs of variables for both persons. In the model, the two people are not assumed to gain together; migration can be resulted regarding only one person's gain by migration. In this case, this person's gain needs to cover the loss of the other. That is to say, the sum of the family's gain needs to be positive. So if two persons' private interests have the same sign, then the migration decision is made straightforwardly based on both interests. Borjas (2013) and Bodvarsson et al. (2015) re-interpret the Mincer model. In their description, a variable shows the change in income of the first person by migrating, and the other shows of the second. If the sum of the two changes is positive, then migration decision is positive.

However, the focus of neoclassical migration theory remains on two things: wage differentials that affect the decision in the pre-migration period and the consequent impacts in the labor market in the post-migration period. At the macro level, wage differentials are seen to move individuals from low wage regions to higher wage ones. As seen on the Figure 2.2, this increases the labour supply in the high wage region that is country-B, and lowers it in the low wage region that is country-A. In the end of this process, wage differentials are assumed to adjust.

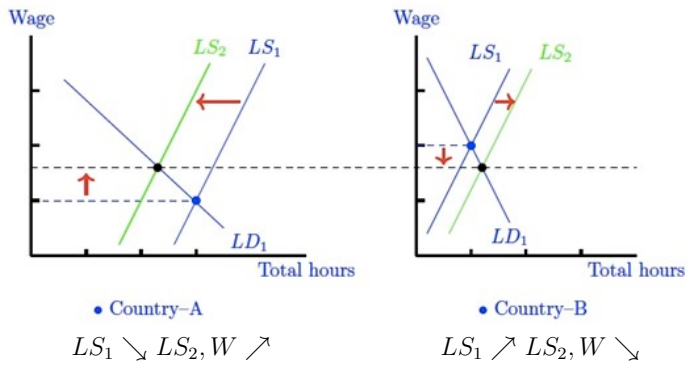


Figure 2.2 Wage differentials adjustment

In this approach, immigrants who earn less in their origin country and are motivated to earn more start their search for another country in which they could earn more. Search is costly, because as long as they stay in the decision stage, they keep earning relatively less in their origin country than what they would have otherwise earned somewhere else. Potential migrants then consider possible destination countries and rank them with respect to their expectations about earnings. Countries, on the other hand, accept immigrants regarding their own needs specific to their economic processes and to the extent that the characteristics of immigrants would meet labor needs that they have. Like the matching processes between job seekers and job vacancies, earnings-seeker migrants match up with the countries with vacancies open for outside workers. The matching algorithm mathematically settles to equilibrium once everyone is matched up with the best available option in their ranking-based sets. At the macro level, when certain numbers of migrant workers are matched with the needs of countries, the wage differential no longer attracts other immigrants, nor do countries need any outside workers in their labor markets. This implies that migration stops as soon as the wage difference between two countries no longer exceeds the costs of migration, and an equilibrium is reached (Massey et al. 1993, Borjas 2000). In fact, a close link between migration and economic efficiency is often suggested in competitive economics. As Borjas sums up, "Through an 'invisible hand,' workers who search selfishly for better opportunities accomplish a goal that no one in the economy had in mind: an efficient allocation of resources" (2000, p. 3; 2013, p. 149).

The second approach is human capital theory, which is used to explain the change in earnings with respect to change in skills. According to Mincer (1958) and Becker (1964), who developed the foundations of the human capital theory, human capital is similar to physical capital, like machines, as both are means of production in which additional investment leads to additional output. Becker has argued that economic theory is not only about material goods, but rather explains everything about the human society. In his words, "the economic approach provides a framework applicable to all human behavior -to all types of decisions and to persons from all walks of life" (1981, p. ix). As for explaining marriage, family, crime and many concepts, human capital has its own inputs, mostly educational and health, and their increase leads to improvements in productivity capacity. Put in formula, earnings are proportional to human capital: $W_c = r.H_c$, where r represents proportionality regarding different cohorts, reflecting how different generations face different conditions (Becker 2010).

On this view, migrants perceive human capital to be a form of lifetime investment (Sjaastad, 1962), and thus they relocate to where the highest returns to their skills are available. Their motivation then extends from simple wage differential to the skills accumulation.

Sjaastad (1962) introduced the first formal models of human capital to immigration as an investment decision. He pioneered the application of the framework by arguing that migration involves a life-time investment in human capital so that

immigrants relocate to where the highest returns to skills are available. Migrants calculate the opportunities that are available to them and subtract migration costs. Rational migrants then choose whatever alternative promises to add to their lifetime earnings more than the others (Sjaastad, 1962; Borjas, 1990).

As Bodvarsson et al. (2015, p. 11) put it, the present value of the net gain to migration is,

$$\pi = \sum_{t=1}^{T} \frac{\left(W_t^B - W_t^A\right)}{(1+i)^t} - \sum_{t=1}^{T} \frac{\left(CL_t^B - CL_t^A\right)}{(1+i)^t} - C(D, X) \tag{2.2.2}$$

where W_t^A represents the earnings in the place of origin, and W_t^B are the earnings available in the destination; CL_t^A the cost of living in the place of origin and CL_t^B the cost of living in the destination. i denotes discount rate so that the net gain is in terms of present value. Lastly, C is cost of immigration as a function of D, the distance between origin and destination, and all other determinants of migration costs are simply denoted by the vector X. Migrants, then, are modeled to be in search of higher returns to human capital, which they perceive to be a lifetime investment. They relocate to where they find this opportunity and try to match their search with the opportunities in the destination countries.

Once labour migrants' motive to migrate is explained associated with this form of rationality, their integration is understood to be integration into the destination economy through market transactions (Algan et al., 2012). Thus, migrants' integration in post-migration has also been analyzed using the human capital approach to explain earnings in terms of skills (see Mincer 1958; Sjaastad 1962; Becker 1964; Chiswick 1978). The approach is more extensive than the wage differentials approach in that it can bring in integration in post-migration; however, it does so by transferring individualistic maximization-seeking behavior from immigration to integration theory by assuming migrants are investors in human capital.

Chiswick (1978) proposes a cross-section regression model of the Becker-Mincer model of human capital accumulation to explain integration whereby immigrants gradually acquire knowledge of the language, customs, and nature of labor markets in the destination country, which are factors that tend to raise their earnings (Borjas, 1999):

$$\log_w = x\beta_0 + \beta_1 I + \beta_2 y + \varepsilon \tag{2.2.3}$$

The equation above presents the wage rate of a person in destination country, expressed in $\log_w$ that reflects the percentage change in wage, as a function of x, a vector of socioeconomic characteristics; I, a dummy variable that is 1 if the person is foreign-born and 0 otherwise; and y, that is the number of years that immigrant has stayed in the destination country. Studies based on the cross-sectional data have typically indicated β_1 to be negative and β_2 to be positive. That is to say, migrants earn lower than comparable natives because their existing skills are not

perfectly transferable to new labor markets. However, when migrants invest in human capital that is rewarded in destination countries, their earnings increase and eventually reach those of the natives.

Borjas (1985, 1987) suggested an alternative interpretation of β_2 as a measure of assimilation as it is a coefficient denoting the additional value of one more year of experience in the host country's labor market. In opposition to the previous positive β_2 interpretations, he argued that cross-section data might show a decline in relative skills across successive immigrant cohorts. As this case can indicate a slow economic assimilation rate, it can also be caused by immigrants' unobservable characteristics. If the latter is the case, and the earning gaps of immigrants compared to natives are a result of these different cohort characteristics, then that cannot be identified by statistical analysis. In other words, the cross-sectional data might be useful at first to represent a view of economic integration; however, they might also hide other important effects such as cohort effects, which cannot be shown by statistics without more careful analysis. This cohort effect is about the different characteristics of the different cohorts. So the arguments on the integration in terms of earnings might be easily overstated if certain immigrant cohorts are different from previous ones.

In economic analysis of immigration, the standard economic integration concept allows us to analyze convergence of immigrants' earnings to natives' by skill aspects but not the convergence of attitudes, habits, and behaviors, in other words anything that is not merely economic. People are expected to fit into their new environment and follow their rational reason to migrate that was determined in the first place: earning more. As Chiswick and Borjas' pioneering immigration and integration theory by employing Beckerian-Mincerian human capital view broadly suggests that migrants earn lower than the comparable natives because their existing skills are not perfectly transferable to new labor market. However, when migrants invest in human capital that is rewarded in host countries, their earnings increase and eventually reach those of the natives. When this level of earnings is reached, it is assumed that economic integration is achieved (Zimmermann and Constant, 2011).

Similar to the Gale and Shapley Algorithm introduced in Figure 2.1, we can visualize the matching of labour migrants and countries as in Figure 2.3. Assume that each migrant has a profile based on their skills and that this profile can be expressed as a function of those skills. For instance, migrant A has a profile that is a function of skills-D, demonstrated as $f\{S_D\}$. Then, migrant-A with skills-D matches with country-D, migrant-B with skills-F matches with country- F and migrant-C with skills- E matches with country-E. Then, according to human capital approach, it is assumed that migrant-A integrates through the market mechanism in country-D, which is integration- D, and that a certain integration path is assumed to be followed by migrant-A which can consist of the elements like, for instance, schooling, employment and housing specific to the country-D. Notice that the subscript 0 demonstrates this specific integration path to emphasize that the elements such as schooling, employment, and housing are the types that are dominantly taken by the majority in the destination country such that Sch_{D0} indicates a dominant

schooling type, Emp_{D0} indicates a dominant employment type, and Hous_{D0} indicates a dominant housing type. Thus, in this approach, there is assumed to be one certain way of integrating into the destination country that follows the skills-based matching between the labor migrant and the country. In the case expressed in Figure 2.3, then, migrant- A follows integration- D, migrant- B follows integration-F, and migrant- C follows integration-E.

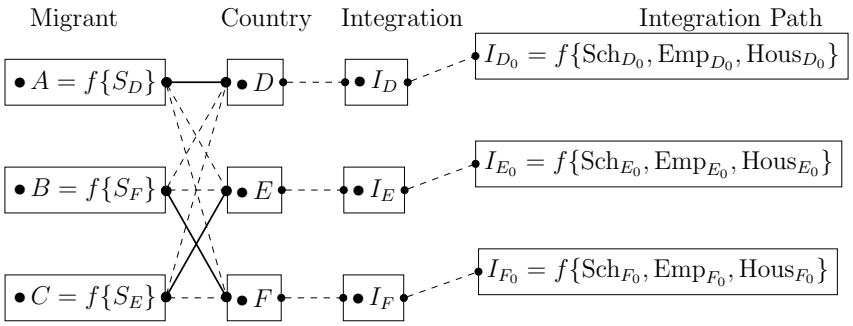


Figure 2.3 Matching of labor migrants and countries

Search and matching theory is quite relevant for the studies of migration. Migrants are *in search of* new destinations for their various migration projects. Understanding this search is important because what they search for gives us insight about why and to where they migrate. Migrants encounter opportunities in their destination countries. Such encounters can be conceptualized as *matching events* between the conditions in these countries and migrants' motives to relocate.

Different from standard economic approaches about the wage differentials and human capital, search and matching theory is also useful for understanding the post-migration processes, that is integration. The theory helps explain how job seekers match open vacancies based on their preferences and characteristics, especially in the human capital terms. Migrants' matching with jobs can be explained with a similar logic. Figure 2.4 has three job-seekers that are denoted as A, B, and C and three job vacancies that are D, E, and F. The job seekers can be migrants or natives. The small letters between brackets indicate skills and characteristics that job seekers have and the skills and characteristics needed in the vacancies they seek. Notice that it is different from the demonstration in Figure 2.1 in that now the agents do not rank the agents in the other set as expressed in capital letters but represented to possess skills and characteristics based on which they match with the agents in the other set. The dotted lines show potential matchings. The stable matching scenario is shown by thick lines: Job-seeker-A matches with Job-D, B with F, C with E.

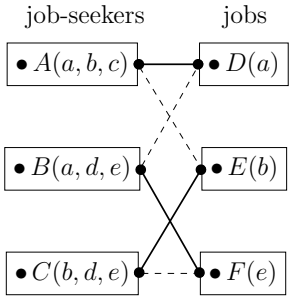


Figure 2.4 Perfect labor market matching

In a perfect labour market, migrants would have well-identified skills, and vacancies would have well-identified skill requirements. Perfect information would assure that no hidden or implicit preferences dominate matching. The market would eventually settle down to an equilibrium where every job seeker migrant matches with a job appropriate to their skills. The primary aim of integration policies in this world is to facilitate matching, for instance, by helping the recognition of skills and mediating between migrants and jobs (Burnazoglu, 2020). This approach is in line with both the neoclassical and human capital approach to migration that values skills over other characteristics. It tends to ignore power relationships in societies that are embedded in economies.

This perfect world is, however, far from reality. Labor markets are imperfect; perhaps even more imperfect for migrants than for natives. Recent reports show persistence of wage gaps between migrants and natives (Grubanov-Boskovic et al. 2017; OECD 2018a, 2018b, 2019). Though there is increase in migrants' employment rates overall in OECD countries, they still display lower employment rates than natives. Specific migrant groups are reported to perform well; however, contrasting cases are present and persistent for some migrant groups. Migrants are concentrated in low-skilled occupations, despite their relatively high educational levels; they don't always work in jobs appropriate to their skills; and they are more often over-qualified for jobs than natives (*ibid*).

The lower labor market performance of migrants is often explained by observed skill differences. Econometric studies apply methods such as difference-in-difference or Oaxaca decomposition that have their merits in making measurement possible and, therefore, discrimination visible. However, these methods can measure only a part of discrimination depending on the controlled dimensions of skill differences between groups. The results are often criticized for not being able to measure details of the dimensions such as in the case of education not only number of years but also quality, or, not only experience but also motivation.

Previously mentioned reports also argue that there is much more left unexplained after controlling for skills, education, and experience. OECD (2018a) reports that, for over-qualification, only one-fifth of the differences in rates is explained by skill

differences. In a meeting organized by the European Commission on "Sustainable Inclusion of Migrants into Society and Labour Market" in April 2019, it is argued that formal education does not guarantee migrants' inclusion into the labor markets (European Commission 2019). In addition to lacking language skills and difficulties with skills identification, migrants, and particularly refugees, encounter cultural differences, discrimination, and also legal obstacles and mental health problems as barriers to entering the labor market (*ibid*, p.5). On the other hand, the European Commission's Joint Research Center reports that the substantial differences in integration outcomes according to regions of origin of immigrants persist through time even after controlling for education (Grubanov-Boskovic et al. 2017). This is mostly explained by trends attributed to origin countries such as the migration types that the country tends to produce. But they also mention, without further investigation, that there can be historical, cultural and socio-economic reasons that lead to different social network effects and possible discriminatory attitudes by employers against migrants from particular regions. Gary Becker's 1957 model explains all these discriminatory attitudes as a matter of employers or customers' tastes and preferences against people from certain groups. But why and how do such prejudices exist and persist?

2.3 Frictional understanding in migrants' integration and current policy

Factors that are not or cannot be included in the basis for matching in post-migration integration remain unexplained by the theory and fall into a category called *frictions*. Petrongolo and Pissarides (2001) famously argued that search and matching theory offers an attractive way of examining markets with frictions. The usefulness of the theory is due to its empirical relevance for capturing actual matching events in the market and pointing out the influence of frictions on equilibrium that derive from information imperfections, heterogeneities, and other similar factors. So when empirically applied, the theory exhibits frictions specific to markets.

However, Petrongolo and Pissarides (2001) also argue that matching models capture the effects of frictions without fully explaining their sources and are, therefore, metaphorically called a *black box*. Frictions in migrants' integration processes also remain in a black box and do not explain why migrants do not match with available opportunities. The *black box* of integration needs to be opened; that is to say, one needs to go further and see what the sources of frictions in integration are.

The concept of *frictional unemployment* in labor market analysis suggests that job seekers and available jobs might not match, or refuse to match. This is because they are heterogeneous; in other words, when their characteristics, such as skills, wages, location, or taste, do not correspond to each other's. Even if the agents are eventually matched up, non-matching characteristics lower the quality of matching and lead to search-in-job, which is where employed agents keep searching for better matches. Put in the context of migration and integration, we can transform this

concept into frictional non-integration where migrants and integration opportunities in receiving countries might not match in the migration market. For instance, *repeat migration* analogously presents an example to search-in-job in that migrants keep searching for better options to migrate to, hence repeat the act of migrating, while already residing in a receiving country. Another example is *return migration*; when migrants' expectations do not correspond to actual conditions of the destination country, they return to their country of origin.

Similarly, the economic integration concept allows us to analyze the convergence of immigrants' earnings to that of natives by skill aspects. As the neoclassical economic approach tends to position labor migrants as if they were motivated and moved only by economic forces (Mezzadra and Neilson, 2013), their integration is also understood to be motivated in regard to these forces. However, this explanation remains limited when it comes to attitudes, habits, and behaviors, especially when migrants' motivation is not based on pure economic reasons, but a mixture of economic, social, and cultural motivations. Relocation might have been driven by economic motivations but this does not lead us to the conclusion that integration follows the same motivations. In effect, various kinds of motivations are nested in real-life behaviors and important for a good understanding of the facts about migration and integration. In contrast to what economics' atomistic individual conception suggests, migrants form social relationships in their destination countries and societies beyond their market interactions. Non-market social and cultural interactions can be significant determinants of migrants' integration (Algan et al., 2012).

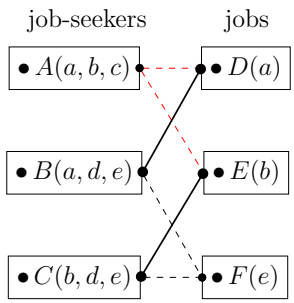


Figure 2.5 Imperfect labor market matching

In this search and matching understanding, migrants' integration through employment is a phenomenon with frictions. In contrast to the perfect labor market scenario depicted in Figure 2.4, mismatches such as the ones in Figure 2.5, where job seeker A does not match with jobs that correspond to some of their skills occur in real markets, because their potential ties are cut for some reason as indicated by dotted red lines. The *black box* of matching needs to be opened; that is to say, one needs to go further and see what the sources of frictions in integration are, thus why the potential ties are cut, especially when these frictions occur continuously

and systematically. *Why do migrants not match with the available opportunities even if their relocating had meant to provide them with such opportunities?*

In current European policy debates, the socio-economic integration of refugees in the European Union is considered to be a complex and challenging desideratum which nevertheless is an attainable one in the long term. Policy makers often emphasize that acknowledging employment as a core part of socio-economic integration and taking measures to facilitate employment are very important to manage what is usually referred to as the 'refugee crisis.' Search and matching theory in labor economics defines employment as matching of open vacancies and jobseekers. Based on this theory, facilitating employment for refugees means facilitating their matching with jobs.

European institutions try to open the black box by recognizing dimensions of integration beyond skills that foster, what they call, 'mainstreaming migrants' through inclusive integration policies. In the recent European Commission meeting on the sustainable inclusion of migrants, Marianne Thyssen, European Commissioner for Employment, Social Affairs, Skills and Labor Mobility, said, "For a cohesive society, we need those that do stay in the EU - refugees, migrants, and their children – to participate fully in economic, cultural and social life. In an inclusive society, we cannot leave anyone behind. (... Inclusion measures should be seen as an investment rather than cost,) an investment that pays dividends for the economy and for society" (European Commission 2019, p.4). This institutional view and understanding puts migrants' broad participation under the spotlight and shows that migrants are more than just workers or migrants, as Western European destination countries had failed to see when they received 'guest workers' in their post-war recovery processes. Migrants' integration has now an investment narrative rather than only a cost one. Different from the human capital approach, which expects migrants to see integration as an individual investment, now the destination countries see integration a public investment by channeling public funds towards migrants' inclusion.

A wide array of evidence shows mismatches between jobs and refugees. Because people fleeing from their countries often do not have their diplomas, the EU faces the challenge of identifying the skills of newly arrived migrants. Therefore, member states of the European Union have offered a range of policy measures to help integrate refugees and asylum seekers into the labor market (European Commission 2017a; OECD 2016a, 2016b).

The below chart shows the main obstacles that prevent people from getting a job that corresponds with their qualifications. It presents three profiles with respect to the main reason of migration: refugees, migrants for family reunification, and migrants for employment or study.

Of the non-EU born who were either jobless or identified themselves as being

[3]The data used in the calculations cover 25 countries of the European Union. EC (2017a) expressed low reliability for answer category of origin, religion and social background.

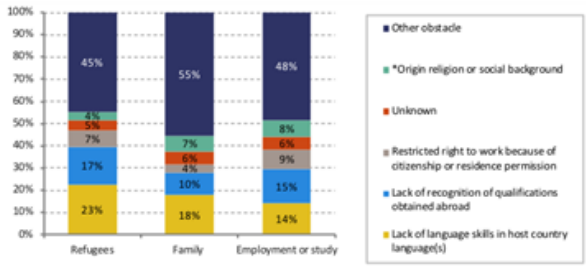


Figure 2.6 European Commission (2017a) estimates of obstacles to the labor market, based on EU LFS 2014 AHM[3]

overqualified for their current job, 40 percent indicated no such obstacles (European Commission 2017a). The remaining 60 percent indicated they had encountered such obstacles. Figure 2.6 shows that 17 percent of refugees highlighted lack of recognition of their qualifications as the main obstacle. Skills identification is, therefore, a key component for the integration of refugees, and, in general, third-country nationals. Lack of destination-country language skills is the main barrier after the category 'other obstacles', which supposedly represents unidentified barriers. This significant share of 'other obstacles' show that skills and rights of refugees are not the only indicators of the quality of a match between refugees and jobs.

Developing a skills profile proves necessary for mapping, assessing, and identifying skills and qualifications. Therefore, the European Commission adopted the New Skills Agenda for Europe in June 2016. This agenda aims at identifying skills at the EU level, including the skills of EU citizens. However, its most important aim is to integrate third-country nationals (European Commission 2017b). Identifying skills is explicitly mentioned as the second of the three main goals (European Commission 2016):

1. Improving the quality and relevance of skills formation (upskilling)
2. Making skills and qualifications more visible and comparable
3. Improving skills intelligence and information for better career choices

Labor-market participation is considered to be necessary for the integration of refugees into the European Union. For refugees to participate in the labor market, their skills need to be identified. These skills need to become 'visible' and 'comparable' for a good matching. Of course, this visibility and comparability should be understood from the European perspective. As refugees are expected to adjust to the European labor market, their identities and characteristics must be translated into local, European standards. The problem with this does not result only from the fact that refugees may not have their relevant documents with them because they may have fled a conflict; it also arises because of who they are and what kind of characteristics they have, that are often of a different nature than those of native Europeans, and if they are identified, it could be by different standards.

Moreover, characteristics that are difficult to identify may remain invisible and therefore unknown.

Hence, identifying refugee skills and qualifications is a significant precondition for matching refugees and jobs. The EU Skills Profile Tool (hereafter 'the Tool') is one of the most recent tools created by the European Commission for making it easier to identify skills[4]. It is a part of the New Skills Agenda for Europe (European Commission 2016) and similar to the 'competence cards' that had been introduced by Bertelsmann Stiftung in Germany.[5] It is composed of questions with the aim to create an overall profile of the individual refugees based on which refugees can match with jobs.

As stated in the Tool manual, it "makes it possible for third country nationals to present their skills, qualifications, and experiences in a way that is understood across the EU" (European Commission 2017b, p. 4). It is composed of questions with the aim to create an overall profile of the individual refugees. The Tool consists of four main sections. The first section is *personal information*, which covers personal details and contact, and migration information. The second is *expectations*, which states refugees' goals such as language learning, taking integration courses, or finding a job. The third is *skill identification*, which summarizes language skills, education and training, literacy, numeracy, digital and professional skills, skills acquired outside the workplace, other skills such as working in teams or problem-solving skills, and drivers'-license information. The last section is *overall appraisal and recommended next steps*, that is the advisor's comments following the skills-identification exercise. The Tool is in the format of a questionnaire which can be used to profile anyone like a Curriculum Vitae. What distinguishes it from a standard CV is the inclusion of migration details (e.g., when and from where the refugee migrated, and whether the refugee had permission to reside and/or work); expectations; very basic skills such as literacy, numeracy (e.g., percentages, geometry, and graphs), computer use, and 'skills outside job' (e.g., preparing food, taking care of elders); and the 'I'd like to' section, which gives refugees the opportunity of expressing their aims. The questions under the skills section show that it is more for profiling the low-skilled, though it is never explicitly stated.

Although the tool is an online tool and so anyone can access it, it is designed for professional advisors or other staff within refugee organizations. The main input comes from the refugees themselves, but advisors complete the form by acting as a sort of translator. Nonetheless, the tool is offered in refugees' own languages too in order for them to understand the questions and communicate their answers with the advisors. As stated in the tool manual, the tool "allows users to systematically identify and document the range of skills an individual may have acquired in different settings—including formal education, informal training, work experience

[4]Link to the tool: `www.ec.europa.eu/migrantskills`

[5]Link to the competence cards: `https://www.bertelsmann-stiftung.de/en/our-projects/careers-via-competences/project-news/immigration-counseling-for-adult-immigrants/`

and beyond, [and] helps organizations offering services to third country nationals to identify specific needs, such as language tuition, employment advice or further training and ultimately simplifies the process of matching jobseekers to vacancies" (European Commission 2017b, pp. 4-6).

At a meeting on the integration of refugees, organized by the European Economic and Social Committee of the European Commission in 2017, experts and policy makers emphasized that 'one-size-fits-all' measures would not lead to adequate job matching for refugees.[6] Rather, more flexible, customized, individualized, and tailor-made ways to identify skills and qualifications are needed: "There is no one-size-fits-all solution for job matching of refugees and it is important to take into account the overall individual solution. ... Support and trainings should be more customized and flexible, based on the needs of the target groups. ... More flexible ways to recognize skills are necessary" (European Commission 2017c, pp. 2–3).

In the meeting, the participants discussed the Tool as well; however, they did not inquire into whether it was of such a tailor-made type. They spoke positively about the Tool and agreed on its potential benefits in identifying refugee skills. It seems that participants assumed flexibility in the use of the Tool; moreover, the Tool itself was considered neutral with respect to its role in 'tailoring' refugees' profiles.

To understand why the EU favors tailor-made measures, we need to clarify what they mean by one-size-fits-all and tailor-made. The one-size-fits-all type measures to identify refugee skills imply standardization of refugee profiles. However, as the EU is concerned, refugees are diverse and have diverse skills. Therefore, measures to support them in their labor market matching, which is one of the key parts of integration broadly understood, needs flexibility rather than standardization. The measures should be flexible and tailorable in identifying skills and thus refugees' profiles with respect to the differences of refugees. The EU Skills Profile Tool is one of the measures for skills identification that is required for integration. But, is it a tailor-made one? How does the EU Skills Profile Tool help to create new profiles for refugees: in one-size-fits-all ways or the tailor-made ones as the participants of the meeting favored?

Integration factors other than education and skills such as inclusion deserve investigation. Job seekers and vacancies do not match solely based on the skills

[6]The meeting was titled "From Crisis Management to Everyday Practice: Lessons from the Integration of Refugees for Future Labor Market and Social Policies" and is jointly organized by the European Commission (EC) and the European Economic and Social Committee (EESC), on November 6, 2017, in Brussels. The participants included the representatives from the EC, the EESC, the European Parliament, the Organization for Economic Cooperation and Development (OECD), the International Labor Organization (ILO), the World Bank, and others from the public agencies and civil-society organizations from European countries. Several things were discussed for highlighting the most important measures: job matching and searching, fast-track integration, recognition of skills and qualifications, and so forth. The programme, presentations, and a report on the event can be found here: `http://ec.europa.eu/social/main.jsp?langId=en&catId=1274&eventsId=1259&furtherEvents=yes`.

job-seekers have and those that vacancies seek. People's social characteristics can determine the basis for matching in addition to those explicitly stated in vacancies. Such obstacles at different level and layers of socio-economic systems may remain present though they are hard to observe with available data and analyses. Therefore, it is not only human capital-based employment that is instrumental to integration; social access to being employed is also a means to integration. To elaborate on both the individual differences of migrants and access to employment, we need a structural approach to open up the *black box* of frictions.

2.4 A Social Identity Based Matching Approach

For a more complete understanding of the heterogeneity of migrants who have mixed motivations in integration processes, I suggest we analyze their search and matching both in identity terms and in terms of individual-to-group type of interactions. In this section I first briefly introduce social identity theory from social psychology and, secondly, introduce a social identity-based matching approach that I propose as a useful analytical tool in comparison to the standard individual-to-individual matching approach that the economics of migration is based on.

According to the social identity theory of Tajfel and Turner (1979), individuals see the world in terms of social group categories, identify with some of these groups, and reject others [7]. Such categories are the basis for how individuals evaluate things that they encounter, and, therefore, constitute a part of each individual's personal identity. Tajfel and Turner explain the mechanism of social group identification in three mental steps. The first one is *self-categorization*, which denotes one's categorizing and classifying oneself in terms of particular social categories in order to understand the social world. The second step is *social identification*. Individuals identify with some of social categories and subject themselves to the norms of those categories as reference points for their behaviors. This process involves the adoption of the identity of the category. When people identify with social groups, they reflexively self-categorize themselves as members of those groups (Bacharach 2006 as cited in Davis 2011). The last step is *social comparison*. Once individuals have categorized themselves as belonging to a category and have identified with the corresponding social groups, they tend to compare it with others. This comparison results in evaluating other individuals as *in-group* or *out-group*; in other words, as '*us*' or '*them*'.

Social identities matter for both migrants and destination societies, especially the ones that are linked to social and cultural order such as ethnic, gender, and class identities (Duroy, 2011). The social identity framework is capable of taking account of the heterogeneities whose effects are not captured by simple averaging and which cause differences in integration outcomes. Migrants are subject to mental processes that Tajfel and Turner argue underlie the mechanism of social identity

[7] For a summary of social identity approaches and their use in conceptualizing the individuals in economics see Davis 2011, *Individuals and Identity in Economics*, pp 74-75.

for all individuals. Having categorized the world around them, migrants identify with some of these social group categories and compare themselves with others. Identification with some categories means developing a social identity that is based on belonging and therefore requires behaving correspondingly to that category. Individual preferences are, then, framed with regard to these categories and norms, and are therefore socially constructed (Davis, 2005). Migrants evaluate things on the basis of such categorizations. So social identities generate reference points for migrants' behaviors and therefore are influential in their forming social relationships in integration processes (Burnazoglu, 2021).

Let me explain the main difference between the social identity based matching approach and the standard matching approach with respect to points indicated on Table 2.1.

	Standard Matching	**Identity-Based Matching**
Matching base	Economic motivations	Multi-dimensional motivations in multiple social identity terms
Interaction level	Individual-to-individual	Individual-to-group
Mechanism	Optimization	Social identity matching
Agency	Passive agents in closed systems	Active agents in open systems

Table 2.1 Standard matching vs. identity-based matching

The first difference concerns the matching base that is the motivation for migrants for forming a match with destination countries and opportunities in the destination countries. As discussed, standard matching is based only on individual economic motivations. As depicted on Figure 2.3, migration is assumed to occur in a form of matching that is based on skills, and integration is assumed to follow from that certain matching. So the first matching involving the act of relocation is supposed to lead to an integration path that is motivated by same factors.

In contrast, social identity-based matching is based on multi-dimensional motivations organized in social identity terms. Rather than seeing migrants as only labor migrants, it recognizes how the mixed and complex nature of different migration cases is taken into account as sources of motivations for migrants' behaviors. We can represent this as immigrants being made up of collections of different social identities, which produce multiple motives for migration and different integration behaviors. These multiple social identities include more observable characteristics such as ethnicity, gender, and religion as well as the intersections of these characteristics. Or they may include identification with a political view, a neighborhood, a company, a sport team, or in a more general sense, a community of people with the same interests, same sexual orientation, or who have to deal with the same kind of issues that may each be significantly influential on integration outcomes.

Let us assume that migrant-A has, in addition to skills-D that led them to match with country-D, Religion-0 or Religion-1 which would, in return, have an impact

on their integration path. So if Migrant-A has Religion-0, say, the majority religion in Country-D, they take integration path-D-0. But if migrant-A has Religion-1, the minority religion in country-D, then the migrant can move towards a totally different integration path that is integration path-D-1, which consists of different schooling (Sch-D-1), employment (Emp-D-1), and housing (Hous-D-1) decisions. See Figure 2.7 for how elements other than skills such as religion can lead to a different integration path than the one that was based on skills only as it was previously shown in Figure 2.3.

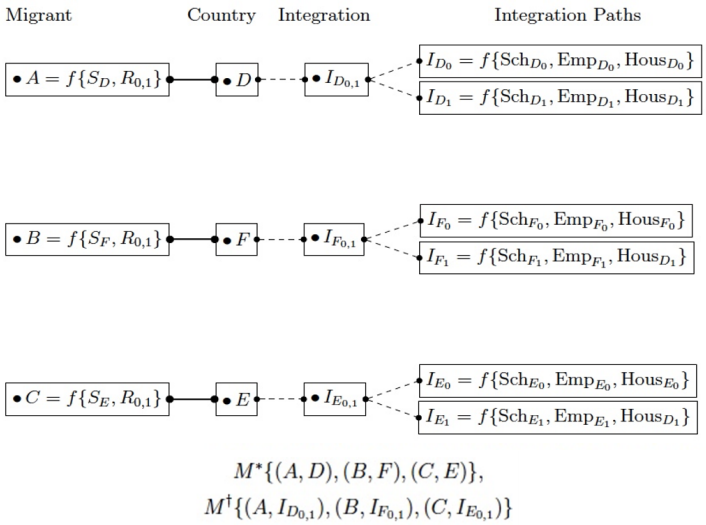


Figure 2.7 Identity-based matching with integration paths

In effect, even before the act of relocating has occurred, migrants have many prior, origin country social identifications. Their relocation might in part have been driven by their search for earning more, but that search is framed by their social identities. On this view, matching frictions are endogenous to people's social identities, thus, need to be taken out of the black box and examined in their sources.

In contrast to individual-level incentives and interactions in the standard approach, social identity-based matching employs individual-to-group type of explanations for interactions. Individuals choose to participate in social groups whose characteristics they believe would fit their own the most. Migrants' behaviors in the post-migration integration process, then, take the form of prescriptions of the group that they identified with and joined, making integration an individual-to-social matching process (Darity Jr et al., 2006).

Matching with groups determine migrants' behaviors with respect to the norms of the group in a different way from how behaviors would have been if migrants were isolated individuals. Yinger (1994) argues that ethnic attachments, as one of the main affiliations that migrants tend to hold, and joining ethnic groups help

individuals preserve a sense of community in face of an unfamiliar environment. The same applies for religious identity groups too. By having that social identity and by transferring a pre-migration affiliation to a post-migration affiliation with the corresponding group in the destination society, migrants treat other individuals in the group as social identity in-group fellows whose behaviors become a reference point to which migrants tend to converge in their own behaviors. Applying this concept then allows us to consider direct interactions between migrants and destination societies rather than those that occur only indirectly through the market mechanism.

The underlying mechanism in the standard matching is optimization. With regard to the preference orders, individuals are assumed to match with the best available options to optimize their earnings, for instance as expressed in equation (2) and Figure 2.3. However, this is a highly limiting assumption about one certain type of rationality that is assumed to lead to only one way of integration, which has the character of a normative argument. This rationality implies that labor migrants would search only for higher earnings and match with countries in which they can obtain these earnings, and that they integrate by converging their earning to that of natives in the destination country. This is normative in that migrants should behave in such a way because this is what optimizes and thus what that one type of rationality implies for them.

However, in opposition to this normative view, I suggest the underlying mechanism in identity-based matching is, instead, what we can call *social identity matching*. I argue for this concept based on the evidence from Verkuyten and Martinovic (2012). They examine the interrelationship between ethnicity and religious group identification and finds that Muslim identifiers in the Netherlands with high ethnic identification tend to have low national identification. However, others who do not identify with Muslims but with high ethnic identification tend to exhibit higher national identification and also have more positive attitudes toward the Dutch, in Tajfel and Turner's (1979) terms, the out-group. The study suggests, two persons may be same as migrants with high ethnic identifications, but their differences in terms of another social identity can significantly influence their integration outcomes.

The main aim of this social psychology study by Verkuyten and Martinovic is to emphasize the existence and effects of having multiple social identities. Similarly, we can think of economic motivations as involving one identity that comes with corresponding prescriptions such as converging one's earnings to that of natives. What I propose and Figure 2.7 depicts by introducing one more social identity, a religious social identity, is that labor migrants cannot only be characterized in terms of labor. Instead, the different identities that they possess influence their integration processes. Therefore, optimization of only economic identity, or the idea of optimizing rationally in terms of only one identity, is very limiting.

The concept of *social identity matching* suggests that action A does not occur because it optimizes in each and every situation; rather, it occurs because it fits a

migrant's situation in a particular circumstance. Social identity matching explains how an action that may be advantageous today as migrants may have had advantages of being a member of a religious community in destination country may be disadvantageous tomorrow for the interactions with the national out-group in destination society, as found in the study of Verkuyen and Martinovic. How one migrant does better in certain terms than the other in integration, then, does not depend on optimizing in one period, but instead on how the collections of migrants' social identities evolve and match with others over time in the destination society.

This social identity matching idea brings in another concept: interdependent decision- making and path dependency in matching with groups. Sardinha (2009) suggests ethnicity acts as an *organizational principal* that guides group behavior. When migrants have affiliations with, for instance, an ethnic group, their decisions in the destination country such as about schooling, employment, and housing tend to follow the decisions of the others in the group and are thus bounded by what migrants perceive to be in their choice set. We can thus interpret the initial matching with a group as to be a dominant type of matching that tends to be more influential over other later matching events that migrants form in the course of their integration. So the initial matching with social groups in destination countries can lead to certain types of integration depending on path dependent patterns of matching. An identity based matching approach thus suggests that different social group affiliations sort people over different paths, often preventing them from entering other groups.

Individuals in the standard matching approach are passive agents who have stable preferences and whose search activity can only be matched with vacancies, which are the characteristics of a closed system. This view ignores the complex set of motivations underlying migrants' agency that leads them to move (Arnold, 2017). In the social identity-based matching approach, agents are understood to influence their environments and are influenced by in turn, which are the characteristics of an open system. This is because social identification is not an abstract identification with categories but the product of migrants' concrete involvement with corresponding social groups (Kirman et al., 2007). Based on their social identities, individuals choose groups and groups choose members; they constantly influence each other, and both are changed over the time. This difference in terms of agency, and open versus closed systems in general, can be seen as a distinction between two different understandings of integration: closed integration systems, as employed in the standard individual-to-individual matching approach, and open integration systems, as suggested by the social identity-based individual-to-group matching approach.

2.5 Integration into established social systems

When we think of agency in open integration systems, one should emphasize the relationship between individual choice and socio-cultural constraints. In social identity analysis, identification with a category or a group often leads one to think

that the person would then easily join the corresponding group. For instance, in Akerlof and Kranton's social identity approach (see for instance 2000, 2010), an identity function is incorporated into individualistic utility functions. With this, one assumes that the individuals can freely adopt social identities and behave with respect to the prescriptions of the identified group.

If individuals are free to adopt any social identities of their choice, we would expect the migrants who seek to earn more to easily adopt social identities that help them to do so. However, this view misses the fact that, migrants possess a set of social identities from their pre-migration life and then try to match these with a set of social identities in the destination society. Furthermore, when joining groups, migrants do not encounter groups only as collection of similar people, but also institutional elements involved within the groups. We can define these institutions as systems of established social rules that are similar to norms or prescriptions of groups that coordinate human behavior and lead it to some sort of recognizable behavioral patterns. Institutional weights do not only explain why behavioral patterns emerge, persist, and evolve, but also whether or not or how easy or difficult it is for migrants to adapt to the groups they wish to join.

When migrants try to enter a social group given their inherited social identities, they then become subject to not only pull or push effects of their inherited social identities, but also institutional forces in the groups that determine their final success regarding entering these groups. So migrants' integration should be seen as to being into established social systems surrounded with social rules that are not easily or by default satisfied by the migrants.

By revisiting migration and integration using standard search and matching framework, I suggested we explain frictions in integration endogenously, which I argued to be important determinants of integration outcomes. I referred to Petrongolo and Pissarides' *Black Box* metaphor in which they argue that matching theory can ignore how matching occurs or how it doesn't and why. This metaphor has assisted me in applying these questions to the context of migration and integration in connection with labor migration. I discussed the problematic points in the standard economic approach that result from misconceptions and oversimplifications associated with the heterogeneity of labor migrants and the complex nature of their interactions with their environment. I suggested a new conceptual approach to tackle these problems: a social identity-based matching approach for understanding and examining the complex issues with the concept of integration.

My aim in this chapter was to shift the analyses of migration and integration behaviors and dynamics from individual-level incentives to socially constructed ones. Although economic theory tends to make a clear-cut connection between the pre-migration and post-migration behaviors, other social sciences often emphasize the open nature of the integration process as interactive, two-way processes between migrants and destination societies [8]. This leads us to the limits on agency by arguing

[8]See, for instance, "two-way process" explanation of the interactions in integration by Penninx and Garces-Mascarenas (2016), and Heckmann's (2005) definition for integration as an interactive

that institutional elements are fundamental determinants in how social identities sort labour migrants into different integration paths. Further discussion of the internal working of these institutional mechanisms is needed in economics, which has recently begun to recognize how social and institutional forces influence the market mechanisms. This chapter can also be seen as a call for alternative, more realistic, and more social and evolutionary understanding of the issues in economics by making use of the findings in other social sciences.

process between and mutual change in migrants and the destination society.

CHAPTER 3

Identity-based Systematic Exclusion and Stratification Traps[1]

3.1 Introduction: What explains the gaps in migrants' integration?

The gaps between migrants and others are a part of increasing inequalities of our day. Inequalities are often understood in terms of differences in income and wealth. But what creates these differences and how should we think about them in regard to migrants' integration? In this chapter, I aim to show that exclusion and social stratification are deeper ways to address inequality outcomes in integration processes in contrast to a skills-based understanding of who migrants are and how they position in socio-economic systems in the post-migration integration processes.

European Union policy institutions consider integrating migrants costly but an investment that benefits destination countries in the long term.[2] European Commission (2019) have begun to employ a new integration narrative, namely 'inclusive integration' that recognizes the need for a broader understanding of integration beyond the reach of skills. This narrative relies on individual level solutions and the investment understanding about migrants' integration. But can it help explain integration into established social systems in the presence of enduring macro patterns in society which individuals encounter not necessarily due to their individual characteristics but due to their being members of certain social groups such as migrant, race and gender? *What underlies the persistent gaps between migrants and natives? Is it only individual human capital differences between migrants and natives, or is*

[1]This chapter is partly based on the following publication: Burnazoglu, M. (2022) "Stratification Mechanisms in Labor Market Matching of Migrants," *forthcoming in Cambridge Journal of Economics*.

[2]The chapter aims to examine general conceptual lines. Nevertheless, it is produced from a perspective of the Western European experience and policy. Hence most of the examples and data are about Europe and produced by European Institutions.

there also something more systematic and structural that causes and reinforces the obstacles?

Employment is widely acknowledged as one of the best instruments for migrants having better lives and thus a core part of their socio-economic integration into destination societies (Council of the European Union 2004; European Commission 2017). In line with seeing integration as an investment, employment is seen as a *good* to invest in integration policies. In that, employment represents a means for integration like a *good* is a means for one's ends, and, thus, one expected to turn integration costs into an investment for destination countries. On the other hand, it is also like a *good* as understood in economics' the standard *goods typology* that presents four types of goods in terms of rivalry and exclusion in their use and public or private investment in their provision. The investment narrative for migrants' integration emphasizes employment as a *good* in the former meaning, means for one's ends, without addressing the latter meaning that associates it with rivalry and exclusion mechanisms.

How are migrants doing in terms of this employment *good*? Recent studies show that migrants are doing well in terms of employment but not as well as natives (Grubanov-Boskovic et al. 2017; OECD 2018a, 2018b, 2019a). Why do migrants not match up with available employment opportunities even if their relocation was expected to provide them with such opportunities? These studies argue that there is much left unexplained even after controlling for skills, education, and experience (ibid). Policies that aim to facilitate matching and overcome coordination problems are often based on observable skills. But the reason may be *beyond observable differences in skills.*

Stratification Economics is a field that proposes social stratification as a key structural approach to investigate and explain inequalities. I suggest this approach explains not only inequality outcomes for migrants but also structural exclusion mechanisms in integration processes that underlie these outcomes. My position is that social stratification explained by social group identity dynamics generates a more realistic assessment of human capabilities in addition to individual skills and provides a systematic explanation of institutional structures which subject migrants to various forms of exclusion in integration processes. Social stratification, in the form of exclusion or a perception of exclusion from opportunities, is a systematic sorting process that modifies labor market matching. Exclusion can occur either as an unexplained part of the differences between migrants and natives or as nested in the explained factors operating at different levels and layers of socio-economic systems. It is not, therefore, only employment based on individual skills that is instrumental to integration as the EU emphasizes. Access to being employed, the type of employment available, and the perception of this access irrespective of social group identities are key factors for this good of integration.

Stratification functions like a trap for certain groups of people, particularly migrants. It reinforces itself by reproducing systems of exclusion and creates dilemmas for migrants. For instance, migrants need employment to integrate, but they need

integration for better access to employment and being employed. Education is one of the key determinants for employment, but difficulties in finding employment limit access to education (OECD et al. 2016). *Can migrants organize themselves to avoid such traps? What kind of institutional arrangements might turn the trap-like scenario into a circumstance in which integration is not only beneficial for them and society but also results in more equal and just opportunities for migrants?*

In the previous chapter, I aimed to challenge the idea that skills-based matching explains migrants' labor market integration. I reviewed the standard search and matching framework to analyze migrants' predicted labor market performance. In this framework, systematic exclusion is mistakenly characterized as only a frictional phenomenon that fails to be captured in matching mechanisms. This chapter focuses on systematic exclusion, and explains social stratification in terms of how social identity-based institutional structures systematically subject migrants to different forms of exclusion. I show that exclusion is endogenous to employment as a type of good, using the standard goods typology to classify different types of employment goods. Exclusion in this account occurs not solely at the individual level but is constantly reinforced by a how institutions affect different social groups. The chapter then discusses whether stratification is an *inescapable trap* for some social groups.

I treat different types of employment opportunities as being like clubs, one of the good types in the goods typology, and investigate how migrants join or create alternative employment clubs as a response to real or perceived exclusion from native employment clubs. If these alternative clubs are "sticky" and discourage migrants from joining natives' employment clubs, the trap becomes inescapable. This then suggests the failure in migrant integration through the labor market is a collective action problem associated with how societies organize labor markets into different destinations or clubs with sharply different sets of opportunities. The chapter closes by discussing how for migrants to get out of the stratification trap, employment should be seen not only as an investment as the first meaning of good would suggest, but as a collective action problem concerning exclusion, as the second meaning of good would do so.

Section 3.2 introduces a structural approach to group-based exclusion. Section 3.3 revisits exclusion in the goods typology and combines it with the stratification approach. Section 3.4 examines stratification traps. Section 3.5 argues whether migrants can escape such traps.

3.2 A structural approach to group-based exclusion in labor markets

The EU institutional approach partially recognizes migrant characteristics beyond skills but does not seem to fully recognize that the matching problem goes beyond individuals and the reach of the investment concept. One cannot ignore the social barriers to labor markets which individual migrants face. One also needs to understand group-based exclusion and inequalities that come from individu-

als' identification with social groups that operate beyond individual preferences, choices, and actions. We thus need a new approach.

Stratification economics is an emerging subfield in economics that emphasizes group-based inequalities (Darity Jr, 2005, 2022; Stewart, 2008; Davis, 2015; Obeng-Odoom, 2018, 2020a; Seguino, 2019). It can serve as the missing link in understanding migrants' integration through employment, understood as a good. Let me first give an explanation of the terms 'migrant' and 'native,' and then a more complete definition for the type of stratification with which this chapter works. Then I investigate specific exclusion mechanisms by revisiting the employment good within the goods typology.

First, there is no universally accepted definition for "migrant" at the international level (IOM UN 2019), hence an explanation of how I use the terms 'migrant' and 'native' is necessary. Every collective term carries the risk of mistaken and even harmful generalization and does not do justice to the growing diversity (Bovens et al., 2016) . For instance, the term "host or receiving country" is very often used but it implies a particular relationship between migrants as "guests" and others as "hosts." Therefore, I use "destination country" instead. Or, the term 'native' can indicate colonial constructions or imply indigenous people depending on the context in which it is used. One of the main points of this chapter is that exclusion performs in degrees and in different forms. To embrace these various degrees and forms, the paper employs broad definitions of 'migrant' and 'native'. The term migrant should be understood as the excluded racial or ethnic group with a migration history. The term native should be understood as the dominant racial or ethnic group of the concerning country, which is in position of excluding migrants. For instance, in the Netherlands, the operative taxonomy had until recently been autochtoon, meaning white ethnic Dutch, and allochtoon, meaning foreign birth and their descendants, which distinguishes westerse allochtoon (Western foreign born) from "niet-westerse allochtoon" (non-Western foreign born) (Yanow and van der Haar 2012). In the context of this chapter, the latter is the group who faces exclusion the most.

Second, social stratification occurs when societies organize and rank people in a hierarchical way, not as a reflection of individual differences but with respect to their social group membership and categories (Massey 2007). I explain social stratification in terms of social identity-based institutional structures, which allows me to examine a rich array of institutional mechanisms influencing people's opportunities and actions[3].

Institutions are systems of social rules embedded in society (see Hodgson, 2006). Rules can be formal and informal. Informal rules are do's and don't's for individuals (Crawford and Ostrom, 2005), and "prescriptive requirements" (Ostrom, 1986, 1990, p.126). In brief, they are working rules (Commons, 1957; Ostrom, 1986),

[3]This definition of stratification embraces and explains 'systemic racism'. It is, however, not limited to it as different forms of discrimination with regard to social strata can be based on other things than race.

'ruling-in' some behaviors and 'ruling-out' others (Ostrom, 1990).

Migrants, as any individuals, categorize the world around themselves and identify with some social categories, defined as social group identities.[4] Social identities operate like institutions that impose rules like prescriptions that need to be satisfied to be a member of a group. Identification with a social group category such as an ethnic, gender, religious, or an ideological one influences and generates reference points for migrants' perceptions, behaviors, and actions with respect to the shared normative understanding of the group (Darity Jr et al., 2006). Therefore, migrants' seemingly individual preferences are framed, though in different degrees, by the norms of groups with which they identify (Davis, 2005, 2011).

Migrants are members of social groups that they identify with (Kirman et al., 2007). This membership links them to a relative group position in a social hierarchy (Darity Jr, 2005; Darity Jr et al., 2014). We should note that the purposeful identification and membership that comes with it is just one side of the coin. The other side has a different story: independent of persons' own identification with social groups, other persons can see them as members of certain groups and categories. For instance, migrants may purposefully identify with being a migrant, which corresponds to 'self-categorization' in Tajfel and Turner's mechanism of social group identification that was introduced in the previous chapter. They then bind themselves by the rules that migrant groups have, such as not following native customs. But even if they don't, natives may still believe or assume they do. So, the identification does not have to be performed just by the person; even physical characteristics such as the skin color may push the person to belong to a certain reference group such as a racial group and to have characteristics that come with that group.

Stratification economics proposes a fundamentally different understanding of market mechanisms from that of the mainstream economics. John Davis (2019) contrasts stratification economics with Gary Becker's analysis of how discrimination in labor markets should ultimately disappear because it is incompatible with competitive labor market forces. This comparison shows fundamental differences between mainstream and stratification economics in terms of their individual conceptions, discourses, normative scopes, understanding of competition, and treatment of conflict. Based on this contrast, I distinguish two fundamentally different views of migrants' labor market integration in Table 3.1. Although there exists a wide literature in migration studies, sociology, and social psychology emphasizing social aspects of migration and integration, the recent EU policy on migrants' integration relies on a mainstream economics understanding.

In the mainstream view, migrants are relatively atomistic individuals whose behaviors can be known and adjusted. The policy discourse for this individual concep-

[4] I should emphasize that focusing on migrants rather than natives is purposeful. Everything about social groups as institutions applies to natives as well. However, I'm more interested in migrants' perspective when they are facing exclusion, not the perspective of natives, which is the main source of exclusion.

Concepts	Mainstream view of Migrants' Integration	Stratification view of Migrants' Integration
Individual conception	Atomistic individuals with adjustable behaviors	Social individuals reflect group prescriptions
Discourse	Private and institutional investment	Private-public collaboration combined with collective action
Competition	Between individual migrants and natives	Several layers including between individual migrants and natives and between groups
Conflict	Not fully explicit, assumed avoidable	Explicit and central
Normative scope	Emphasis on the efficiency in destination labor markets with partial recognition of broader participation	Broader participation in labor markets with attention to fairness, equal access, rights etc.

Table 3.1 Two views on migrants' labor market integration

tion tends to ignore migrants' agency and calls for private, but mostly institutional investment by member states and the EU. Stratification economics, in contrast, does not analyze the individualistic migrant whose behavior adjusts when there is enough investment. It avoids both ontological and methodological individualism and is critical of standard economics' rationalizing attitude (Obeng-Odoom, 2018). Rather than focusing on individual experiences, stratification economics analyzes the roots of enduring exclusion and inequalities associated with relationships between social identities and institutions.

The mainstream view of integration assumes migrants compete with natives in destination country labor markets, and any discrimination that they face is supposed to be addressed at individual level. Stratification economics, on the other hand, assumes that individual level solutions do not reflect the macro mechanisms which informs individual situations. Markets, and labor markets in particular, are stratified by, for instance, race and gender. Differences in labor market outcomes in part come from enduring stratification mechanisms (Darity Jr, 2005; Hamilton et al., 2011), which then can perpetuate stratified structures in other markets or walks of life as well (Darity Jr et al., 2014). Moreover, group conflicts are not spelled out openly but are often ignored in the mainstream view. Individual conflicts fall under the standard matching view's frictions explanation and need no attention. Recent upheaval of racism discussions in the U.S. and some other parts of the world clearly demonstrate and remind the world of the ongoing and consistent conflict.

The recent *Human Development Report* (2019) gives some valuable key messages about inequalities of the 21st century: 1. Disparities in human development remain widespread; 2. A new generation of inequalities has emerged; 3. Inequalities accumulate through life and reflect deep power imbalances; 4. Assessing and responding to the new generation of inequalities require a revolution in metrics; 5. Inequalities can get redressed through action now before imbalances in economic power are politically entrenched (p.153). These messages call for attention to social-identity based inequalities that result from power imbalances and goes beyond the standard understanding of income inequalities among individuals.

Stratification economics argues that social identities generate a basis for inequalities and conflicts. The *Report* supports this by showing that inequality tracks differences between social identities such as gender, race, ethnicity, religion, caste, class, and sexual orientation. Presenting a wide array of evidence and recent data on social identity-based inequalities, the *Report* argues inequality "arbitrarily marks some social groups as superior to others in the opportunities they enjoy, the powers they command and the respect others owe them," and adds that "under such conditions members of subordinated groups lack effective means to vindicate their human rights, even in states that legally acknowledge these rights" (2019, p.89).

The *Report* does not use the stratification concept explicitly but discusses the enduring and pattern-like characters of inequalities. Obeng-Odoom (2020a,b) argues that UN organizations limit discussion of inequalities to the issues of measurement, data, development goals, and, as the 2019 economics Nobel Prize shows, experiments. Social stratification, that is, enduring mechanisms that operate systematically to reinforce social identity differences, reproduces similar outcomes to those of inequality that are analyzed extensively in the Report. The difference is that stratification is a structural explanation that does not limit these inequalities to existing inequality measurements. Instead, it places the dynamics of social strata in society at the center of the analysis. In a stratification understanding, the problem starts with how social stratification affects access and opportunities for people; thus, with power imbalances.

As a last point of comparison, the normative scope of the mainstream migration policy is limited to efficiency and investment in labor markets just as is mainstream economics. The European Commission's inclusive integration narrative (2019) emphasizes the necessity of migrants' broad participation in society. However, it is still motivated by the efficiency in labor markets in the context of an aging society in Europe. It seems that the European policy aims to convince actors to invest in migrants' integration based on the expectation that they will pay back this investment by providing the necessary labor force. The stratification understanding proposes a shift in motivation from efficiency to fairness, equal access, and rights.

Given the contrast between stratification and mainstream views on migrants' integration, we can conclude that current integration policy employs a limited perspective. The stratification perspective, in contrast, has a fundamentally different position, discourse, normative scope as well as an emphasis on conflict. To understand how this modifies labor market matching for different groups, the role of conflict should remain on the table and exclusion be given a structural analysis. The standard goods typology in economics offers a structural analytical approach with which we can do this.

In line with the EU's view of integration as an investment, migrants' employment can be seen an integration good. However, not all have equal access to it through labor market matching due to factors such as exclusion based on group identities. Societies organize labor markets into different destinations with sharply different sets of opportunities, and thus, as seen in the previous chapter, migrants into

different integration paths. These destinations are taken by groups of migrants, not individual migrants only. As Obeng-Odoom (2022) argues, migration is not about individual choices alone but is shaped by variety of institutions. This does not include the reason for migration only but also post-migration processes. Rejecting the standard explanation that emphasizes integration in terms of human capital, integration should be seen to result from the interactions of rules, settings, and individuals built around social group identities.

3.3 Exclusion revisited in the Goods Typology

Employment is usually competitive; not everyone who applies for a job gets it. Employment opportunities can also be specifically designed for migrants. In this case, migrants do not share the same opportunities with natives and thus they do not compete with them. Other times, however, they do share employment opportunities with natives. Search and matching theory explains competition in terms of skills when job-seekers compete for same vacancies or when vacancies compete for same jobseekers. But the idea of competition does not capture the role played by mechanisms of structural exclusion affecting social groups. What kind of good, then, is employment when social identities generate the basis for institutional structures?

The standard goods typology describes different types of goods in terms of excludability and rivalry. It originates in Samuelson (1954) twofold division between public and private goods on the southwest-northeast diagonal and was further developed using James Buchanan's club goods (1965) and Elinor and Vincent Ostrom's common pool goods (1977) on the northeast-southwest diagonal, as shown in Figure 3.1.

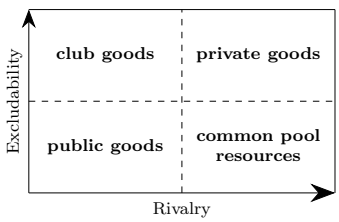


Figure 3.1 The typology of goods
(Adapted from Ostrom and Ostrom, 1977, p. 12)

In this framework, public goods are those that are neither rivalrous nor excludable. A classic example is streetlights the use of which by one does not prevent the use by others. Private goods are both rival and excludable, such as a car. Club goods are not so rival but are excludable in that only the members can benefit them, such as a tennis club. Lastly, common pool resources such as natural re-

sources are not excludable but are rivalrous in that they are open to all, though they have natural limits such as fish in the sea.

This typology accounts for *exclusion* endogenously and thus offers a broader explanation of sorting mechanisms that determine different types of employment goods for migrants and natives. These mechanisms can be understood in terms of institutional structures that create different employment opportunities and outcomes in a systematic fashion. To explain how different people get different types of jobs, I follow Davis (2019) to focus on the distinction between the common pool goods and club goods [5]. Davis characterizes clubs as a set of exclusionary practices and institutions that systematically discriminates against certain groups of people. These practices occur in the form of discrimination in employment, housing, education, health facilities etc., against some ethnicities, among other characters. Club-like institutions, in which the privileged enjoy membership, segregate other people into common pool type pathways. Common pool type locations are, then, places to which neoclassical theory's scarcity principle especially applies, and where people face economic vulnerability, uncertain income, and limited ability to accumulate wealth (ibid).

Each migrant is supposed to have the same opportunity as a native to become employed. If this is true, and if migrants share employment opportunities with natives, employment can be understood as *common pool resources* type of good, that is, a good that is rival but non-excludable. The common pool resource destination is representative of employment opportunities for migrants in general and for some natives. When employment opportunities are limited for migrants, to the extent that there is some degree of exclusion and this exclusion, though implicit, concerns mostly certain groups of people, employment acts like a club good for some, namely natives. Those who can exit common pool circumstances effectively do so by satisfying some integration criteria for club-like employment situations, as reflected in a move from the common pool area in right bottom of the typology towards to club area in the upper left as seen in Figure 3.2.

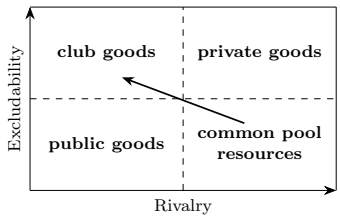


Figure 3.2 The move from common pools to clubs

[5]The common pool resource concept is mostly used for natural resources, but it is also applied to non-natural and non-material goods. See for instance Anderies and Janssen (2013) for an analysis of knowledge as common pool resource.

Mügge and van der Haar (2016) argue that European Nation states and institutions act as clubs by defining immigrants so as to regulate who can enter their territories and under what conditions. Kolb (2008) sees states as acting as clubs in their selection of certain types of migrants. Schmidtke (2012) suggests excludability is a result of a 'utilitarian logic' in countries with regard to country-wise economic competition. These approaches treat destination countries as clubs mostly in the pre-migration process and during the selection of migration profiles in policy making. However, post-migration processes and employment also give examples of club-like exclusionary mechanisms.

What are these exclusionary mechanisms? Exclusion can be in different forms and degrees. It is often caused by natives and other times self-imposed and perceived by immigrants. Its influence can be hidden in and underlie other factors. While standard search and matching frictions measure skills with current decomposition methods, migrants' implicit, unexpressed or hidden characteristics can influence interpretation of skills significantly.

For instance, job vacancies express what they specifically look for but do not express what they do not look for or do not prefer. Let us assume that c is the characteristic being a migrant. Then, in Figure 3.3, the one that has c, job-seeker-A, is a migrant and B and C are job-seeker natives. Vacancies can be exclusionary if they have an implicit list that includes binary expressions such as $\neg c$(non-c), which, in this simple example, means non-migrant. As shown in the Figure 3.3, this creates another parallel set of vacancies, with different lists that make them exclusionary. In the case in which c indicates the characteristic of being a migrant, and $\neg c$ is in vacancies' implicit lists, jobs actually exclude the job-seeker with c, who is a migrant. This explains the cut ties in the matching shown by red dotted lines that was explained as frictional in the previous chapter.

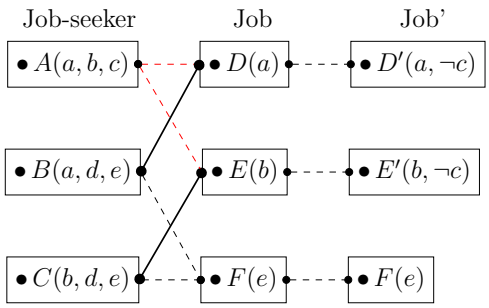


Figure 3.3 Exclusionary vacancies with implicit lists

One of the main findings of a recent report by the European Commission's Joint Research Center shows substantial differences in integration outcomes across origin countries of immigrants even after controlling for education (Grubanov-Boskovic et al., 2017). While immigrants from North America and Australia in Europe have higher rates of employment than natives, those from North Africa and the Middle

East have the lower employment rates. This is often explained by the characteristics of the origin countries such as the migration types that a country produces, connected with human capital differences such as highly skilled migrants, labour migrants, and migrants through family reunification or refugees. Family reunification and seeking refuge is more common to migrants from North Africa and the Middle East while North American and Australian migrants are mostly highly skilled. This view is in line with statistical discrimination account (Arrow, 1971) that explains *frictions* in matching to result from the recruiter's reliance on guesses about a jobseeker by using their identities as proxies for unobserved skills. It is different from Becker's (1957) taste-based discrimination in that statistical discrimination is not based on the taste of the recruiter but the information they have. However, both accounts imply an individualistic and accidental type of discrimination that would eventually disappear in the market; therefore, they both fail to explain the persistence of group-based exclusion. As stratification literature shows, the exclusion can have a structural and functional role in preserving hierarchy of social groups based on identities (Darity Jr and Mason, 1998; Bertrand and Mullainathan, 2004).

Many other studies show connections between the characteristics of origin countries and integration outcomes. Based on a field research survey in Istanbul, Bagce and Yilmaz (2020) show that ethnic background serves as a more dominant explanation for integration than human capital endowments. In their study that uses an 'ethnosizer' measure, Georgians, although the third closest ethnicity to Turkish society, suffer the largest wage gap and are exposed to the highest discrimination in the labor market together with Afghan and Pakistani refugees. Arabs, on the other hand, are labeled as separated, but have the lowest wage gap and, surprisingly, declare not to be exposed to discrimination at all.

Matching based on implicit characteristics, then, suggests a tension between exclusion and integration. In a socially stratified world, institutions are biased toward the latter. For instance, migrants from certain origin countries are filtered out of certain types of employment when employment opportunities are seen to be like club goods with implicit exclusionary mechanisms. Migrants end up being located in common pool type employment situations by default, are in a disadvantaged position in comparison to natives and perhaps with migrants from other origin countries. One should remember that exclusion can occur along different identity lines and through different mechanisms in different contexts. When different group identities and contexts come into play, the mechanisms and outcomes differ. In our example, it is about migrants' origin countries; however, other dynamics with respect to race, ethnicity, and gender would occur as well and determine the mechanism and thus the outcome.[6] For instance, a wealthy white man from Global North would not face exclusion in a native labor market in Global South as much as a black woman from Global South can do so in the native labor market in the Global North. This article employs a simple distinction about migrants and natives

[6]For an account of the interrelation of migration and identity as well as how it is or not conveyed in different approaches from mainstream economics to Marxist political economy, see Obeng-Odoom (2022).

at the expense of such complexities to be able to identify general mechanisms for migrants, which can then be considered for the interaction of different identities in different contexts.

Exclusion is not necessarily purposeful; it can also be unintended. As an example of unintended exclusion, remember the issues introduced in the previous chapter. Many migrants, particularly refugees, do not bring their diplomas and documents with them; therefore, they cannot document their skills to the potential recruiters. Employers may also be uncertain about migrants' skills obtained elsewhere (OECD 2018b). Migrants' skills are also not fully transferable into the European standards. In this case, migrants' integration goods, that is the employment opportunities as defined in this chapter, are limited. They accordingly tend to be discounted due to their misidentification and mismatch with wrong jobs.

European institutions have set up programs and tools that can be helpful for the identification of skills and coordination of job-seekers and jobs, such as the EU Skills Profile Tool of the European Union that was launched in 2017, and introduced in the previous chapter. By "making skills more visible and comparable," (European Commission 2016) these tools aim to facilitate migrants' access to employment. The policy tools such as the EU Skills Profile Tool may help identification. However, if the outcomes of the Tool are of a certain type that sorts migrants towards certain labor market destinations, it can be understood as a form of exclusion that is not necessarily purposeful but can, nevertheless, lead to exclusion (Burnazoglu, 2020).

Such seemingly unintended sorting places migrants in common pool type locations because common pools are where anyone with a migrant identity falls by default. The case of migrants fits Davis' characterization of common pool type locations as places where people face economic vulnerability, uncertain income, and limited ability to accumulate wealth. As listed among "Relative Uncertainties for Migration by 2030," migrants in common pool type locations face social uncertainties such as 'public response to growing cultural and ethnic diversity' and 'inequality within and across member states (class, gender, ethnic, residence status); political uncertainties such as 'levels of xenophobia, islamophobia and racism,' and economic ones like 'structure of labor demand' (European Union 2018, p.20).

The institutional barriers that migrants face when trying to join a club setting are established by social rules similar to norms and prescriptions of groups that coordinate human behavior and lead it into recognizable behavioral patterns. These elements have different degrees of force which would explain why behavioral patterns emerge, persist, and evolve, and also how easy or difficult it is for migrants to adapt to the groups they wish to join. When migrants try to enter a labor market organized in a club-like way, they become subject to institutional forces that define the terms of entry. Integration processes move migrants into established social systems which accept migrants' agency in a very limited way (ibid). Migrants' integration into established social systems, in our case, into labor markets, are thus surrounded with social rules and mechanisms that cannot be easily satisfied and handled by migrants.

3.4 Stratification traps

The previous section argued that enduring disparities in migrants' labor market performance result in part from exclusion mechanisms for the employment good in social identity-based institutional structures. Stratification functions like a trap for migrants; it reinforces itself by reproducing exclusion and causes dilemmas for migrants about integration. I suggested that mainstream's skills-based labor market matching and integration as an investment further deepens this trap. *How does the stratification trap function?*

3.4.1 Labor market commons as institutions for collective action

Arguably the most-known trap-like characteristic is introduced by Hardin (1968) as the *tragedy of the commons* to explain over-exploitation of common pool resources. Hardin is also known with a tragedy of migration type of approach.[7] However, in his classical tragedy of commons, the problem concerns governing natural resources; people need resources to maintain their livelihoods, but because nothing limits access to those resources, they are over-exploited. In migrants' case, this tragedy about over-exploitation is similar to being caught in a social stratification trap that ensures migrants will fail to close the gap between their labor market outcomes and those of natives.

Akbulut (2017) argues that the solution for Hardin lies in centralization or privatization; however, the works of others such as Ostrom (1990, 1994, 1999, 2005), Berkes et al. (1989); Berkes (2009), Agarwal (2003), and Wade (1987) show solutions without choosing between the two. Among them, Elinor Ostrom proposed a fundamentally different view of common pool resources than Hardin's tragedy. Instead of sticking to unalterable tragedy scenarios, Ostrom analyzed the dynamics of governance for common pool resources and institutions for collective action. Similarly, instead of seeing labor market mechanisms as unalterably leading to stratification and the remedy in the over-optimistic investment view, I suggest we see them as a collective action problem.

Ostrom argues that Hardin's tragedy and seeing natural settings as tragedies of commons make people "helpless individuals caught in an inexorable process of destroying their own resources" (1990, p.8), "(...) in a trap from which they cannot escape (ibid, p.14). Ostrom rejected this idea of helpless individuals, and her rich insights into the human capabilities call for changing institutions. She emphasized in her Nobel Prize lecture: "The humans we study have complex motivational structures and establish diverse private-for-profit, governmental, and community institutional arrangements that operate at multiple scales to generate productive and innovative as well as destructive and perverse outcomes (North 1990, 2005)" (Ostrom, 2010, p. 641).

Farjam et al. (2020) define commons as governance regimes set up to coordinate

[7]For a further discussion of anti-migration approaches in mainstream economics including that of Hardin's, see Obeng-Odoom (2022).

the exploitation of resources by different users. The concept often implies a social dilemma and conflict between individual self-interest and collective interest outcomes (Ostrom, 1998). Institutions understood as systems of rules can overcome the tragedy of commons and lead to collectively beneficial outcomes (North 1990; Ostrom 1990, 2005; Farjam et al. 2020). Ostrom argued that "the capacity of individuals to extricate themselves from various types of dilemma situations varies from situation to situation" (Ostrom, 1990, p. 14). In some situations, individuals may have sufficient autonomy to craft their own institutions (*ibid*, p. 60).

There are many diverse situations and mechanisms behind migrants' integration in labor market, which interestingly have not been connected to institutional explanations for collective action problems. However, migrants can make use of their social group identities to collectively organize their access to labor market opportunities. In the common pool type situations that Ostrom emphasizes, in contrast to the cases where Hardin's tragedy applies, individuals possess social capital, which as part of their social group identity helps them organize communication (Ostrom, 1990, p. 184). Social norms, for example, can determine the success or failure of common pool resource management. In the case of migrants' integration, people's social identities connect with social group norms, provide possibilities for migrants' survival solutions in the presence of excludable goods, and, therefore, make a significant contribution to our understanding of individuals' capabilities with regard to their social group identities. We can then rephrase the question of whether migrants can escape the migrant trap as: *Can migrants overcome social stratification by organizing themselves to compensate for exclusion-led failures by changing institutions?*

3.4.2 Institutional change and the persistence of 'sticky' clubs

The change in and persistence of social identity-based institutional structures need attention to understand the reinforcing mechanisms of exclusion. With exclusion from native employment clubs, migrants can organize themselves and create their own employment clubs by making use of their social identities. When they cannot get through the filters of a native situation, club-1 in Figure 3.4, they may form or move to alternative migrant club situation, club-2, to lower their employment search costs and reduce transaction costs, improve their bargaining position, and share the risks that they face in labor markets. This relates to the concept of *segregation* in post-migration, which is different from integration that would require interaction of the two groups. The co-existence of two clubs implies segregation into parallel labor markets, economies, and societies. These alternative club situations also create a certain level of exclusion to outsiders and can be durable and long-lasting.[8] They can be migrants' survival solution to compensate for their disadvantageous positions. These alternative clubs function similarly to the native

[8]Some suggests alternative clubs to be a sub-area still in the common pool zone. This would be the case if alternative club is fragile and short-lived. However, alternative clubs are often long-lasting and develop their own exclusion mechanisms against outsiders as a way to survive. Ethnic diasporas are good examples of such long-lasting, exclusionary, and strong ethnic clubs.

club. The norms of these clubs improve migrants' opportunities for better lives as they understand it.

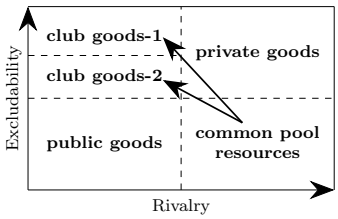


Figure 3.4 Two-clubs society

The alternative club solution would be an example of a change in institutional location as the rules of the game are different according to the norms of the club they enter. Social identities are the basis of moves from common pool situations to these alternative survival clubs. This involves a change in institutional location affecting how migrants behave, make decisions, and interact with other migrants and natives. By moving from the common pool situation to these alternative clubs, migrants change their opportunities by entering a less competitive situation, at least, in short term in the form of a social capital membership/endowment. Migrants often benefit from being members of these alternative clubs. With these new endowments, they may refrain from leaving a club that they matched and trying to enter a new one. We can call this *stickiness of clubs* that indicates their institutional persistence.[9]

The social dilemma, however, not only exists for common pool resources when they are highly rival and non-excludable as the typology suggests. Club-like cooperation can be problematic in the long run in both clubs and at whole-society levels. At the club level, cooperation can be problematic due to the downsides of club dynamics and outcomes. Portes (1998) describes four possible negative implications of social capital: groups with strong ties tend to exclude outsiders; excessive claims and pressing social obligations may undermine individual initiatives; membership may restrict individual freedom; downward levelling norms, rather than communal success stories, push individuals away. Referring to Portes' implications, De Haas (2010) emphasizes a need for more nuanced view of the positive but also negative sides of migrants' social capital. The use of social capital, in our case the capital that comes from social identities, can be useful for some reasons. However, it can also be among the factors that impede migrants' integration and eventually lead to the breakdown of migration systems (*ibid*) due to the stickiness of clubs.

There is further social capital literature that goes hand in hand with these up

[9]The path dependence concept is relevant here in that it explains migrants' locational positions in alternative clubs. The stickiness of clubs refers to the strength of this dependence.

and down sides of social group dynamics. Giving an extensive account of related theories and applications, Andriani and Christoforou (2016) refers to the distinction between three types of social capital: *bonding social capital* that refers to ties within groups, *bridging social capital* that refers to links across groups, and *linking social capital* that brings social groups together at the levels of policy and/or power position (Woolcock and Narayan, 2000). They endorse the literature about *bonding social capital* that can help group members to bond and deal with socio-economic problems. In this paper, the concept of *bonding social capital* is parallel to migrants' alternative club forming. However, as Andriani and Christoforou argue, when these groups are exclusive and closed, the members get trapped in disadvantaged positions due to power imbalance with other groups, which would also imply disadvantageous segregation. This is in line with the *sticky clubs* and considered to perpetuate power imbalance between migrant and native groups. They suggest that *bonding social capital* may help group members to "get by" but less likely to "get ahead."

When migrants' survival needs turn them to alternative clubs, the dilemma remains at the society level too. Society now contains parallel and segregated migrant and native clubs, solidifying stratification in the society even further. Certain people go to certain places for survival reasons; when those places are sticky and persist, more people may go to those places for the same survival reasons. These new clubs may lead to new power relationships within groups and contribute further to the reproduction of a stratified society. Therefore, migrants' social dilemma expands on the societal level.

3.5 Escaping the trap?

The main focus of this chapter has been how social stratification acts as a trap for migrants. Having criticized the standard search and matching theory that emphasizes labor market frictions but does not explain the mechanisms behind them in the previous chapter, in this chapter, I described the perils of the investment narrative to migrants' integration which emphasizes integration as a good without addressing the exclusion mechanisms and social structures that undermine it.

I then suggested we approach migrant integration from a fundamentally different perspective, stratification as social identity-based institutional structures that drive and therefore explain the labor market mechanism for the diversity of agents and situations they face. What determines behaviors and outcomes in post-migration processes, then, depends on dynamics that cannot be reduced to a simple approach that concerns only visible, pecuniary, stable, isolated, intended, and purely individual motivations. The goods typology is an extremely useful tool for endogenizing exclusion and, therefore, for focusing on long overlooked power dynamics in seemingly neutral and 'just-frictional' labor markets. This approach explains integration dynamics within countries and why migrants do not always match the seemingly available opportunities even when their relocating was expected to provide them

with such opportunities. Emphasizing power relationships, it makes conflict visible and brings it into our analyses as a principle rather than as a friction.

I suggested we employ a trap-like tragedy analysis where people face unalterable social dilemmas governing their resources. I discussed Elinor Ostrom's groundbreaking turn in thinking about the commons in treating them as institutions for collective action in which people are not passive agents but can organize themselves to govern their commons both for individual and collective benefits. Having made employment a common pool good and therefore explained institutions in terms of collective action in labor markets, I argued that a migrants' survival solution in the form of creating alternative clubs does not solve the problem at the whole society level. The stratification trap reproduces migrants' position often subject to unequal and unjust outcomes in society, which goes beyond Ostrom's reach.

What misses in Ostrom's explanations is an emphasis on the varieties of conflicts that arise from structural power relationships. Akbulut (2017) argues that the Ostrom's approach is ground-breaking about the governance of common pool resources, however, in a way that has much in common with Hardin's approach as it employs methodological individualism that implies individuals' strategic interactions as response to economic and social incentives to find a solution. This goes in line with the mainstream tendency to mistreat social capital as an individualistic concept, however, as Christoforou (2013) argues, when the 'social' in social capital is understood as social embeddedness, it can and should address political aspects of human agency. Akbulut continues to suggest that Ostrom's approach carries on a "sterilized fashion" that does not capture broader historical processes of capital accumulation and power relations (2017, p.395). She argues that the approach by the Ostrom cannot address intensifying dimensions of inequalities and the dynamics that shape them, which the Marxian political economy and especially feminist ecological economists such as Agarwal (2001) can. On the other hand, Ben Fine criticizes Ostrom saying "her analysis, like that of mainstream economics, is silent about class, power, and a specification of capitalism and its history. Conflict barely makes its way onto her agenda, which prefers neutral references to universals—such as boundaries, congruence, sanctions, rights to organize, and so on—with which mainstream economics is more than comfortable, if slightly unfamiliar." (2010, p.584).

Stratification economics can fill the gap by providing a crucial link to connect the types of goods, inter and intra group dynamics, and a structural identity-based explanation for reinforcing power imbalances. It endorses the urgency to rethink not only commons but the thin link between commons and club goods that highlights the question of structural exclusion mechanisms. It reminds us that the social group clubs rely on the endowment and accumulation of different types of capital that enables the structures of power domination that creates persisting social, economic, and political trap-like structures. Bourdieu (1986) explains these structures to be reproduced in variety of ways through different institutions in society. He stresses that the dominant groups reproduce these structures thanks to

their possession of richer endowments and capital. Stratification economics adds to this by providing the identity emphasis and excellent range of evidence that shows how dominant social identity groups particularly along the lines of race, gender, and their intersections maintain the hierarchy of groups. Hence, the power question remains on the table going beyond individualistic or class explanations to persisting power relationships of our day. The type of collective action that is suggested in this chapter then aims to endorse structural solutions to structural power asymmetries diverging from that of Ostrom's account about individualistic actions, or group actions that are explained by individualistic motivations.

CHAPTER 4

Algorithmic Stratification Mechanisms[1]

> "I am made and remade continually. Different people draw different words from me."
>
> (Virginia Woolf, 1931)

4.1 Introduction

Data matter immensely in our current day and societies. Algorithmic operations, or automated decision-making (ADM) systems in general, increasingly take over the tasks of processing and organizing the data that was previously left to humans. They mediate many social, economic, and political processes. An increasing number of public sector bodies use and experiment with algorithms and ADM systems for, for instance, social policy administrations, welfare provisions, employment services, city planning, policing, fraud detection and criminal justice. A report by the Central Bureau of Statistics of the Netherlands has shown that 47% of all ministries and government agencies in the Netherlands use algorithms in their primary processes (CBS 2018; European Union Agency for Fundamental Rights 2020). In the private sector, algorithms are widely used in insurance, labor, housing and many other markets for risk assessment and targeted advertising. Algorithm is an umbrella term for all automated classification and decision-making (ADM) systems that are produced and used for particular purposes in public administration and various markets. Although each operation has a particular purpose, the most common uses of algorithms in both social policy, public administration, and private markets are as risk assessment tools and prediction technologies.

[1]This chapter is partly based on the following publication: Burnazoglu, M. (2020). "Built-in normativity in tailoring identity: the case of the EU skills profile tool for integrating refugees," *Journal of Economic Methodology*, vol. 27, no. 2, 117–29.

In general, algorithms work by clustering, categorizing, and matching. Their mediation functions similarly to broader practices of modeling and measurement: they involve in simplifying individuals and groups for various purposes at hand, and organizing the input data to produce inferences about them. Hartmann and Wenzelburger (2021) argue that the big promise of algorithms is to move from fundamental uncertainty (Knight, 1921) to statistical risk. In other words, they provide inferences from known unknowns for the purpose at hand rather than leaving them untouched in the world of unknown unknowns.

It is widely known that algorithms are often biased. As Narayanan (2018) puts it, "Bias in machine learning is the rule, not the exception." Cowgil and Tucker state, "even computer scientists with PhDs, data centers full of processing power and extensive historical performance data cannot guarantee unbiased predictions." (2020, p.12). Biasedness does not need to be a shortcoming; algorithms can be less biased than human decision-making. So algorithms can serve as social goods by reducing relative biases in comparison to human bias in a way in which to benefit the society (Bembeneck et al. 2021; Kleinberg et al. 2018). Moreover, they can also be perceived to do so even when they do not. For instance, Fumagalli et al. (2022) compare workers' willingness to pay for human versus algorithmic evaluations in recruitment. They show that workers perceive the two differently; human recruiters are perceived to be more biased by placing more weight on personal characteristics while the algorithms evaluate task performance.

The *social good* characteristic of algorithms is not limited to reducing bias in comparison to human bias. They allow fast performances, save labor, and can function more efficiently than human-led processes. They can facilitate social and economic transactions (Varian 2010), and reduce various economic costs (Goldfarb and Tucker, 2019). They can also be beneficial and even necessary for making certain groups of people visible and empowering. Emmanuel Didier has argued that quantification not only to describes the world but also transforms it to serve the public (Bartl 2020).[2] Algorithmic mediation facilitates quantification and can transform and serve the public in an inclusive and empowering way.

There is a growing body of academic literature conducted in the fields of law, ethics, and computer and technology sciences on algorithmic workings, their ethical aspects, and what their use might be leading to in markets and society. It shows that epistemic issues that lead to biases, caused by inconclusive, inscrutable, and misguided evidence, can lead to unfair and badly transformative outcomes (Mittelstadt et al. 2016; Tsamados et al. 2021). Imperfect data and inferences as outcomes of inherently biased algorithmic processes have the potential to cause harm and injustice. Growing numbers of institutions are becoming aware of these dangers. For instance, the European Commission (2020) recognizes that AI and algorithmic operations entail several potential risks including various types of biases and discrimination.[3] The Commission documents that the human decision-making

[2] https://conventions.hypotheses.org/11917

[3] https://ec.europa.eu/info/sites/default/files/commission-white-paper-artif

is not immune to biases either; however, the bias in AI could have a much larger effect in affecting larger number of people. Similar concerns are raised by Angela Merkel[4] The Obama White House[5], and OECD (2019b) as well.

The next question is: What makes algorithms *bad*? Where does the threshold lie after which algorithmic bias turns from *social goods* to *social bads*? In a recent Brookings report, Emily Bembeneck, Rebecca Nissan, and Ziad Obermeyer (2021) argued that AI is still mostly unregulated because regulators do not have a vocabulary for their biases. They say, "When we regulate a toaster oven, we know it should not catch on fire. When we regulate a pharmaceutical, we know the benefits should outweigh any side effects. But what do we measure when we regulate algorithms?"[6] They emphasize the importance of defining the bias and finding ways to measure it. One of the widely found biases is "label choice bias" that is about algorithms not doing what they are supposed to be doing. They call what we want algorithms to do "ideal targets" and what they do "actual targets." The gap or the discrepancy between the two results is "choice bias." Obermeyer et al. (2019) show that the ideal target of an algorithm used in health system and in care management programs in the US is health needs. Yet, the actual target, health costs, resulted in recommending less health care to Black patients despite their greater needs.

The authors suggest that to catch these biases, we would need to understand and analyze the algorithms in their workings and contexts. We should ask two questions to find out if algorithms are biased, hence whether there is a gap between their ideal and actual targets: "What do we want them to do? What are they actually doing?" In addition, they suggest, we should also ask "Is there a discrepancy, and if so, is it different for different groups?" This last point deserves attention in that it sheds light to a criterion with regard to which we can consider algorithms to operate as *social bads*. When algorithms are biased, they can still be either *goods* or *bads*. However, when they are biased in a way in which they penalize certain groups, I suggest they are *social bads*. This is the situation that this chapter proposes as "algorithmic mediation" to turn into "algorithmic stratification." In other words, algorithms are *bads* when their biases are biased towards certain groups by penalizing them systematically.

Although the term "algorithmic stratification" is coined in this chapter, the bias phenomenon is present in the literature, and it shows not everyone is equally vulnerable to the biases in algorithmic mediation. It is often certain identities, such as by gender and race, that fall into 'risky' categories and suffer (see Eubanks, 2018; Noble, 2018; Angwin et al., 2017). Especially profiling algorithms that generate profiles such as 'risky' and 'not risky' from the input data have been shown to

icial-intelligence-feb2020_en.pdf

[4] https://www.theguardian.com/world/2016/oct/27/angela-merkel-internet-search-engines-are-distorting-our-perception

[5] https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/2016_0504_data_discrimination.pdf

[6] https://www.brookings.edu/research/to-stop-algorithmic-bias-we-first-have-to-define-it/

discriminate against marginalized groups (Mittelstadt et al., 2016; Barocas and Selbst, 2016; Birrer, 2005).

The punishment of relatively disadvantaged and vulnerable identities reinforces social exclusion and power imbalances. As argued in the previous chapter, Stratification Economics emphasizes how various systems and institutions that are seemingly neutral can push certain people onto paths that limit their life chances and social mobility. Similarly, I argue when algorithmic mediation produces *social bads*, it penalizes the least advantaged the most by directing them into less advantageous paths. The increasing evidence of such biases in algorithmic practices calls for a right to reasonable inferences regarding the outcomes of these practices to be used in employment, health, and criminal justice (Wachter and Mittelstadt, 2019). The dilemma of doing *good* by inclusively describing and transforming society or doing *bad* by the harm and injustice due to inherent bias presents an important reason for asking where epistemological and ethical concerns about algorithms meet (Mittelstadt et al., 2016), especially when technologically mediated discrimination through algorithms becomes a part of "régimes of truth" (Foucault 1980, 131, as cited in van Schie, unpublished manuscript).

Although there is a wide literature on algorithmic bias and on their group penalizing consequences, there seems to be a lack of critical political economy thinking and empirical research in economics on this. In particular, the impact of algorithmic processes on certain groups of people, their potential to sort certain groups onto certain paths, and the link between methodological practices of algorithms and their economic-political consequences remain largely examined. To begin to close this gap and allow political economy to contribute to this vastly growing literature, this chapter investigates the ways in which the workings and use of algorithms contributes to the social reproduction of a stratified society by 're-ontologizing' identities and thus society.

Thus, the main question of this chapter is the following: *What are the mechanisms by which algorithmic bias becomes algorithmic stratification that reinforces identity-based inequalities?* I first define algorithmic mediation and algorithmic stratification. I then construct a common ground between algorithms and general modeling and measurement practices to identify the characteristics and mechanisms of algorithmic stratification in three steps: data, design, and use. Mechanisms in these three steps are then applied to and analyzed in connection with mainly the EU Skills Profile Tool used by the European Commission and briefly a Dutch Welfare Surveillance Programme "SyRI" (for 'system risk indication').

4.2 From *Algorithmic Mediation* to *Stratification*

Algorithms are mathematical constructs (Hill 2015), with application to observed data (Cowgill and Tucker, 2020), and implementation into a technology for a particular task (Mittelstadt et al., 2016). They often appear in the form of sets of steps and instructions in computation and programming. Although there are variety of

ways algorithms work depending on the type, form, and the task or purpose in hand, their workings are similar to input-output models as shown in Figure 4.1: they mediate between an input and a resulting output. The resulting output of algorithmic mediation intended to trigger a decision or an action to be taken.

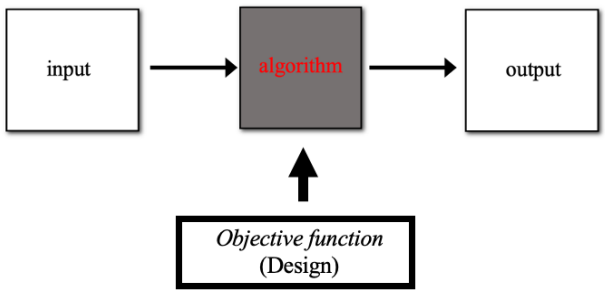


Figure 4.1 The algorithm as an input-output model

One of the basic structured constructs in algorithms is a 'conditional' (IF-THEN-ELSE), used when a decision needs to be made between two courses of action.[7] For instance, mortgage algorithms aim to predict whether someone will succeed or fail to make mortgage payments. The risk profile created by the algorithm determines an interest rate and maximum mortgage. The algorithm functions in the following way: "if income x, then interest y, else maximum mortgage z." Income x enters the algorithm as an input; outcomes y and z are produced by the algorithm.

The matching of x with y and z employs an *objective function* determined in the design of the algorithm. This objective function has a double meaning. The first is about the 'goal' or the 'specific purpose' of the algorithm. The second is about the objectivity in that the designers and users want algorithms to be as objective as possible. There are, however, complications in both meanings. For the first, algorithms can have multiple objectives and these objectives do not always go hand in hand but might instead conflict. For instance, in hiring, different values such as efficiency, innovation, and diversity may enter the *objective function*. These values, their operationalization and ordering can be highly subjective, which creates a problem for the second meaning.

The *objective function* is where we can look for the 'ideal target' and 'actual target' of Bembeneck et al. (2021). The ideal target should inform the design; the actual target is what the design actually does. Consider the Obermeyer et al. (2019) example about the healthcare algorithms. The ideal target of the algorithm was to identify the patients with risk of getting sick in the future so that they could be helped today to decrease complications in the future. The actual target,

[7]There is no standard but a structured part to pseudocode. The three basic constructs in an algorithm are Linear Sequence, Conditional: IF-THEN-ELSE, and Loop: WHILE and FOR https://www.cs.utexas.edu/users/mitra/csSpring2017/cs303/lectures/algo.html

what the algorithm does, was to predict who would generate high costs for the healthcare system, based on the assumption that healthcare costs are a proxy for healthcare needs. As the authors argue, "The ideal target, the decision we care about, was need for care, but the algorithm's actual target was cost of care. We wanted the algorithm to answer one question, but it was answering something else" (Bembeneck et al. 2021).

The gap between the ideal and actual targets and hence the bias was one finding of the study. Furthermore, Obermeyer et al. (2019) show that some patients, particularly Black patients, ended up having lower costs, which then would suggest lower healthcare needs as costs were being used as proxy for needs. That, however, was not the case, and was leading Black patients to remain deprioritized for the program with higher long run costs and worse health states. This relates to the third question that Bembeneck et al. (2022) asked: "Is there a discrepancy (between ideal and actual target), and if so, is it different for different groups?". The answer to both parts of the question is yes, which implies algorithmic bias leads to *group penalty*.

Group penalty is a phenomenon not only in Stratification Economics but also recent Feminist Economics. In the Feminist Economics, Nancy Folbre (eg. 2018, 2021a, 2021b) coins the concept of 'care penalty.' She argues that care work is essential and much needed, yet is not valued. Paid care work is associated with low earnings and low bargaining power; it is among the most precarious kinds of work in labor markets. Unpaid care work, on the other hand, is not recognized as work and thus perceived as a free and invisible task. She points to the fact, and it is widely documented by other studies (see for instance EIGE 2021), that both paid and unpaid care work are performed disproportionately by women and mostly by women of color. Thus, capitalist dynamics penalize both paid and unpaid, but especially unpaid and thus non-commodified care provision, which is mostly performed by these certain identities belonging to certain groups.

Stratification Economics embraces the group penalty concept with a particular emphasis on the variety of identities such as not just gender but race and migration status and the intersections of these identities. As introduced in chapter , it is a theory of social exclusion, suggesting that the societies organize and rank people in a hierarchical way, not as a reflection of individual differences but with respect to their social group memberships and categories. These rankings effectively sort people into different destinations with different opportunities, which tend to reproduce and perpetuate a stratified world. Based on Bembeneck et al. (2021), and Obermeyer et al. (2019), I formalize *algorithmic stratification* as follows:

- There is a gap between ideal and actual target of the algorithm,
- This gap penalizes groups in relatively vulnerable social, economic, and political positions.

In other words:

$$\text{Bias (ideal target} \neq \text{actual target)} \rightarrow \text{group penalty}$$

Algorithmic mediation involves biases and create *group penalties* that produce *algorithmic stratification* in different ways. One is about data gap and non-recognition that causes certain identities to remain invisible and uncounted in data. The data gap literature argues that many social, economic, and political issues involve non-recognition of these identities, and only improved recognition and visibility can help solve the social problems this creates. For instance, Criado Perez (2019) presents an extensive account of data bias in terms of gender in a world designed for men. The Economist (2021) adds that the world is designed not just around men but around "white men; they (then) share it with everyone else."[8] This man is often referred to as a "reference man" defined as "being between 20-30 years of age, weighing 70 kg, is 170 cm in height, and lives in a climate with an average temperature of from 10 to 20 C. He is a Caucasian and is a Western European or North American in habitat and custom" (International Commission on Radiological Protection 1975). Anything else falls into a data gap.

A new documentary by Shalini Kantayya named 'Coded Bias' shows how information systems recognize white faces, but not black ones. This documentary is based on the MIT Media Lab researcher Joy Buolamwini's discovery of racial bias in facial recognition algorithms. There are other similar cases involving voice-activated programs that work better for men than women (The Economist 2021). All these cases and others highlight a gap between recognition levels of certain identities in society. To close the gap, there is a growing movement calling for organizing data differently, for instance, by disaggregating data by certain indicators that would help recognize those identities previously left invisible. A better organized knowledge as an outcome of better designed algorithmic processes can be beneficial to empowering people by providing visibility and recognition to certain identities. Rhonda V. Sharpe argues that breaking out data and statistics by race and gender is a crucial for inclusion (2019). Similarly, the European Institute for Gender Equality presents an extensive account of why gender data and indicators matter (2019).[9]

Another way for group-penalizing biases operates in *algorithmic mediation* concerns selective visibility. Data based on clear-cut algorithmic classifications can determine how risky persons are. A well-known example is 'redlining' such as the use of postcodes that predict the likelihood people are wealthy, but also that certain identity profiles are 'less risky.' The inferences can be correct or wrong in different degrees but nevertheless may be decisive in what access persons are given. If a person is identified as risky, they might be directed in ways that make them even more vulnerable. This common phenomenon works like a penalty to the already vulner-

[8] https://www.economist.com/leaders/2021/04/10/design-bias-is-harmful-and-in-some-cases-may-be-lethal

[9] The reader must be aware that there may be downsides of breaking out the data by social identities such as the registration of Jewish identity in the World War II. Although it might not be comparable with this case for a variety of reasons, another case for the downside is the data registration of the *Academics for Peace* movement in Turkey was later used for the legal prosecution of some of signatories (see `https://barisicinakademisyenler.net/node/1`).

able, and widens the gap between those in relatively more advantaged and those in relatively less advantaged socio-economic positions. Thus, in a society stratified by social and economic positions, the impact of biased algorithmic mediation may intensify stratification.

For instance, Eubanks (2018) shows the impact of data mining, policy algorithms, and predictive risk models on certain profiles of people in the US. She gives an account of how the developers and designers might have good intentions, but the algorithmic tools nevertheless lead to bad outcomes, punishing some people, and keeping them in vicious circles of disadvantage. Gilman (2020) argues that errors in the design of the automated decision-making systems used in social benefits programs punish the poor for being poor and lead to tragic results in the practices of American government agencies. Additional literatures show some algorithms discriminate against marginalized and vulnerable group (see also Barocas and Selbst 2016; Birrer 2005).

In addition to literatures that highlight group penalty and reproduction of the stratified social structures explicitly, there is wide literature on how the working of algorithms display bias to the disadvantage of certain identities. For instance, Larson (2017) and Prates et al. (2020) show that translation and search engine algorithms encode language in gendered ways. Datta et al. (2015) and Tambe et al. (2019) document gender bias in AI recruiting tools such as Amazon's. Lambrecht and Tucker (2019) present gender bias in algorithmic advertisement especially for jobs within the fields of science and technology. Benjamin (2019a, 2019b) shows that the digital tools to identify risk and allocate resources in health care leads to the automation of racial discrimination. Arnold et al. (2020, 2021) studies algorithmic discrimination based on race in bail decisions and criminal justice and emphasizes the difficulties in its measurement. They suggest that a risk assessment tool may be racially discriminatory if it recommends release before trial at a higher rate for white defendants than black defendants with equal risk of pretrial misconduct (Kleinberg et al., 2018). Some legal softwares have been discovered to recommend harsher sentences for black criminals than white criminals (The Economist 2021).

So, there is extensive evidence about algorithmic bias, which shows that algorithms do not always do what we want them to do and about the ways in which their workings penalize certain groups. The introduction showed bias is created at the level of the *objective function*. However, that function is not the only source of the bias, especially for group-penalizing bias. *What, then, are the mechanisms of not only that bias but also of their group-penalizing character?* This question requires going beyond the bias literature and embracing a critical political economy and methodology approach.

4.3 Mechanisms of Algorithmic Stratification

Analyzing the sources and mechanisms of biases is not an easy task. Most algorithms are like black boxes; the users or outsiders know little about their design.

Furthermore, when machine learning comes into the play, the mechanism becomes dynamic, which makes the analysis even harder than when the original codes are shared. Traceability and accountability are two of the most important characteristics scholars and policymakers emphasize for ethically responsible algorithmic processes. Yet, others show that this is often not possible; some even suggest it is better it is not (Cowgill and Tucker, 2020).

Algorithms are like models and a similar difficulty is present with models as well. We use models; however, often, without knowing their construction processes. Models simplify complex worlds so that we can think about and analyze their features (Morgan 2001). Similarly, in a complex world, algorithms are used for representing individuals and groups for various purposes at hand. However, Morgan and Knuuttila (2012) and Morgan (2012) argue that models have various roles and natures that go beyond representation.

The literature on these roles and their nature can help us understand the roles and natures of the algorithms, as well. Morrison and Morgan (1999) and Morrison (1999) characterize models as mediators arguing that they are constructed and function in different ways and help us learn about both theories and the real world. They see models as *autonomous agents* which function as *instruments of investigation*.[10] Their autonomy is based on their partial independence from both theories and the world. Because of this autonomy, models function as mediating tools between theories and the world. According to them, "What it means for a model to function autonomously is to function like a tool or instrument" (1999, p.11). But they emphasize that a tool of investigation involves some form of representation of either some aspect of the real world or of theories about the world. It is, they claim, this representative power of the model that carries the model's role beyond its instrumental function to become a tool for mediation. Similarly, algorithms mediate between input and outputs. They do not represent the real world perfectly. They are biased, and thus cannot provide a perfect information about, for instance, riskiness of a person. They are tools or instruments for mediation that produce the necessary information for the purpose at hand.

Let us zoom into this mediation role for the case of migrants' integration. As shown in chapter 2, identifying migrants and particularly refugees' skills is an important task for facilitating their labor market matching. Modeling of refugee skills requires mediation between refugees and their skills profiles. We can represent a refugee, as any human being, with a cloud, with characteristics that cannot be identified and explained completely in well-defined formats.[11] Thus, the EU Skills Profile Tool (henceforth "the Tool") introduced in chapter 2 is an algorithm that

[10]See also Rodrik 2015 and Aydinonat 2018 for a recent investigative tool approach.

[11]This is inspired by Sydenham's (1976) cloud in my expressing refugees as clouds. He draws a figure to explain the whole process of measurement that starts with a "system under study" (depicted as a cloud), and modeling and measuring processes (depicted in well-defined forms such as square and rectangular). Boumans (2015) investigates the role of human judgment in Sydenham's measurement system. My emphasis is on the system under study depicted as a cloud and its representation in well-defined formats in the modeling and measuring processes.

aims to mediate between a cloud and a well-defined format to identify those characteristics that may be useful in job search. Figure 4.2 is a simple depiction of a relationship between this cloud and a well-defined format such as a compartmentalized square that is a representation, the profile, of refugees.

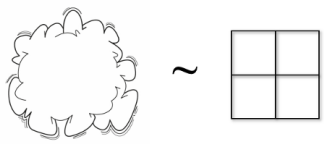


Figure 4.2 From a person to a profile

To match inexact profiles of refugees with jobs, the EU Skills Profile Tool helps by mediating systematically. The Tool is an epistemic mediator with an autonomous character by being neither fully or explicitly based on a well-defined theory nor producing perfect representations of refugees. It benefits from theories of migration, integration, and labor markets, and aims to produce simplified profiles for refugees by making their skills 'visible and comparable' for a labor market matching.

Producing simplified profiles rather than perfect representations is an important point. Representational power is often seen as a necessary requirement in modelling. However, models are not only built for representational purposes; representation is only one of their possible uses (Knuuttila, 2005; Morgan and Knuuttila, 2012; Hédoin, 2013). Knuuttila (2005) argues that too much emphasis on the representational role of models limits their epistemic value. She proposes we think of models as epistemic artifacts that help us learn in other ways. The word 'artifact' implies that by including a variety of ingredients and being used in diverse ways, models are material, human-made, intentionally constructed, and the result of purposeful human activity (ibid). In their analysis of a parser, a language-technological artifact like a translator, as an epistemic artifact, Knuuttila and Voutilainen (2003) show that the tool has the epistemic value that comes from its instrumental success, which is not based on representational power. Hence, according to Knuuttila (2005), Morrison and Morgan's account of models as mediators has the potential to ease pressure on representationalist thinking about models. This epistemic mediator account can indeed explain the EU Skills Profile Tool's character to a degree.

Having proposed this algorithmic tool as an epistemic mediator similar to models, we can further investigate how the tool is constructed and how it functions. As said earlier, we often do not know the construction processes of models. However, Boumans' (1999) account shows how different ingredients go into the model construction process by using backward reasoning and historical investigations. Similarly, we can adopt backward reasoning to identify the mechanisms in algorithms by looking at what comes in, and what comes out, which can be traced in *data, design*, and their *use* in their respective processes in algorithmic workings as

shown in Figure 4.3.

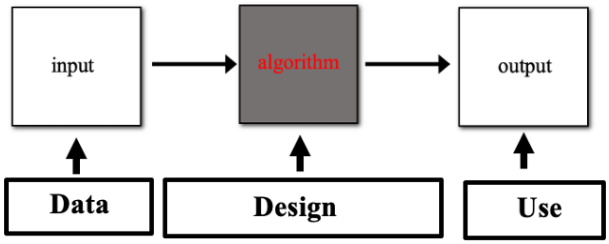


Figure 4.3 Data, design and use processes in algorithmic workings

Let us take the case of unpaid care work in GDP modeling and measurement. The data input for unpaid care is absent from GDP, which is subject to longstanding feminist critique (Berik et al., 2009). One reason of the absence is the general data gap associated with the unpaid and thus noncommodified nature of the work; another is the model on which GDP is constructed is the sum of all goods or services produced in a country during a year. Yet, much critique has been raised against the scope, measurement, and use of GDP as it is only a number useful for a limited number of things and cannot tell us many things about how a country and society is doing. So, the GDP model cannot cover unpaid care work because the data for it is absent, and the model does not include it. In its use, GDP has no account of unpaid care and thus reinforces that care work is non-recognized and hence invisible. The problem then continues and gets into a spiral of reinforcement. If GDP is considered an algorithm, it is an example of a social bad because it does not do what we want it to do and in a way that punishes a certain group, that is, those who are involved in unpaid care work.

We can examine algorithms in their contexts and try to identify *data*, *design*, and *use* by ideally adding new information. However, when that is not possible as it is often the case, we can proceed by using backward reasoning. Let us look at these three steps to identify and conceptualize the mechanisms in which *algorithmic mediation* becomes *algorithmic stratification*.

4.3.1 Data: 'profiling'

The first step of algorithmic mediation concerns data input, namely identifying information for a person, and classifying it under a certain profile, that is, *profiling*. This process is similar to the "if x" part of "if x, then y, else z" construction. Let us zoom into this process and mechanisms involved.

Davis (2011) characterizes individual identity as a collection of social group characteristics. To give an example, a person can be identified with their gender, race, age, and profession. A complete list of characteristics would in principle tell us much about who a person is. Which of a person's characteristics become salient

or known would also depend on how they function in different contexts and situations. This in return influences person's actions and behaviors. The 'identity-based matching theory approach' that is introduced in chapter 2 can explain the ways in which a particular set of a person's identity characteristics interact with specific institutional contexts.

Which characteristics get into the data as inputs for algorithms? Or, how does a person's identity become a data input that enters algorithmic mediation? Algorithmic mediation is purposeful in that people need to be profiled for a specific purpose. For instance, when the task is risk assessment, some parts of person's identity become irrelevant; only the relevant part that is determined by the design of the algorithm gets identified. In other words, some identities or characteristics from an identity list are activated, while others are de-activated. So, what is profiled as X would not be a complete identity list or a perfect representation of the person in question.

Assume that a person's identity can be expressed by the following identity function: $I = f(a, b, c)$. In line with chapter 2 and chapter 3, this function would mean that who a person is can hypothetically be considered as defined by characteristics a, b and c. If only a and b are needed to determine how risky a person is, c might become irrelevant for the purpose. Moreover, the algorithm can also make inferences about who the person is by adding characteristics d and e, even if the original identity function does not include those characteristics. That person then is identified, or *profiled*, as $I = f(a, b, d, e)$. Because this identity is processed, the x in "If x " is no longer who the person is but how the person is profiled. This profile may not represent that specific person perfectly, but it will do so instrumentally for the purpose at hand. As a result, the identity of the person functions as a specific *profile*, as Figure 4.4 below shows in an inputoutput type of model, where here a person's identity is algorithmically profiled. In other words, algorithms do not take identity as given but construct a profile of it.

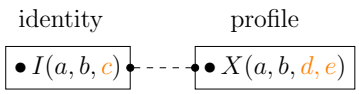


Figure 4.4 From identity to profile

I have argued that the EU Skills Profile Tool can be considered as a purposeful mediator between refugees and their profiles. In line with the cloud analogy, the Tool converts a cloud into a well-defined format to identify those characteristics that may be useful in the job search. Figure 4.5 gives the idea that the mediating processes involve a sort of 'tailoring' by turning clouds into identifiable forms.[12] It

[12]One can think of two types of tailoring when the word is used literally. The first type is when a tailor custom sews a clothing item only for the person who demands it, to their exact measures. The second type is when a person buys a standard clothing item and asks the tailor to adapt it to their measures. The latter is the type employed here. Therefore, tailoring in should be understood to be like adapting a clothing item to fit it to a person, not making one from scratch.

aims to reduce initially unknown refugees to parts with specific features. Then, a well-defined skills profile represents the refugees' competence for work to facilitate their access to the labor market. The reduction into a specific predefined set of features is a key process. It not only is key for matching but can create trust because the resulting "profile" is composed of well-identified pieces. In other words, the "profile" of refugees results from tailoring them to an identity that meets European standards. In the figure below, the cloud is denoted by R (that is, refugees). M represents the mediating process. This mediating process is like a machine that tailors R to P, where P is a tailor-made profile that represents the refugees. Simply explained, input R goes in, and output P comes out.

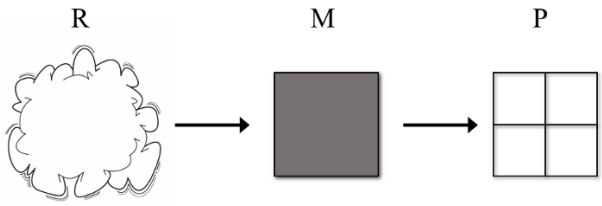


Figure 4.5 The mediating process between a refugee and their profile

This tailoring process in profiling functions in a similar way to the process of "packaging facts" that Leonelli (2011) has introduced.[13] She argues that facts about model organisms in biology are produced in laboratories without having well-defined destinations. However, once produced, they need to be able to travel across a multitude of research contexts and, therefore, be visible and accessible. The travel counts as successful when the facts arrive and are re-used at their destination settings without being damaged or lost. To facilitate this travel, bioinformaticians use digital technologies to 'package' facts. She argues "the process of packaging small facts for dissemination bears remarkable similarities to the process of packaging of items to be dispatched through the mail." (ibid, p.331). Examining packaging strategies, she illustrates that 'good packaging' means being able to apply proper labels to the facts that would facilitate their adoption by users in different contexts. The facts need to be de-contextualized from their context of origin with proper and reliable labels to travel across time and space and arrive at destinations to be re-contextualized for use in new contexts.

The tailoring of the Skills Profile Tool is similar to packaging of facts. As stated in the New Skills Agenda for Europe (European Commission 2016), the skills need to be visible and accessible to match with job vacancies. The Tool decontextualizes the concerning part of who the refugees are, that is refugees' skills (R) by tailoring them. The skills need to be packaged as a profile (P) so that they can travel without the refugee or the administrator who tailored the skills in the first place. It involves,

[13]Leonelli's work is a part of the "Travelling Facts Project". For more about the project, see Howlett and Morgan, 2011.

similarly, putting labels for skills on the refugee profile; each compartment in the square in the Figures above can be thought of as a place for a label. After refugees' skills are decontextualized from their context of origin and packaged as profiles (P), they start travelling in the labor market to match with jobs, that is, to be re-contextualized in a new setting.

In line with the example in Figure 4.4, let us say the refugee under study can be identified as (a, b, c), where a, b and c denote specific characteristics of the refugee [14]. The refugee however is recorded, that is, tailored in profiling, as (a, b, d, e). Because c was unidentifiable or was not recognized by a category in the recording, it does not appear in the refugee's record. Instead, the tailor added some desired characteristics that are missing in the refugee's own self-portrait. Hence, the resulting profile is $P(a, b, d, e)$. Figure 4.6 highlights the involvement and the extent of tailoring in profiling in this example.

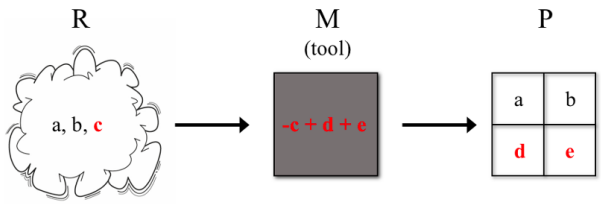


Figure 4.6 Example of mediating between a refugee and their profile

One can think of this operation as "de-individualization," like "an external identity construction" (Mittelstadt et al., 2016). As van Wel and Royakkers (2004, p.133) argue, it is the result of a "tendency of judging and treating people based on group characteristics instead of on their own individual characteristics and merit." The profile of the person is not what the person is; hence the decisions made by using the person's profile de-individualizes the person. Once the profile is created, the de-individualized person gets assembled in group characteristic terms such as 'risky' or 'not risky', only reflecting part of the person's individuality (Mittelstadt et al., 2016; Floridi, 2012; Hildebrandt, 2011; Leese, 2014). These groups and classifications are 'meaningful' in the sense that their construction operates according to the 'meaning' generated by the algorithm (Vries 2010).

The de-individualization operation that filters out certain characteristics from the identity list, while leaving others untouched or simply unacknowledged is similar to the task of cleaning data. Although the scientific literature does not always explicitly say from what the data is before it is cleaned, there is growing literature that investigates the practice of cleaning as an epistemological activity (e.g.

[14] I am not claiming that the refugee is (a, b, c) but that a, b, and c, among others, are characteristics than can be find in the refugee. On the other hand, it is not $a + b + c$, that is to say, the characters of a, b, and c are not mutually exclusive. I would argue that the profile in the format of $a + b + d + e$ can fall short in terms of the aggregation problem in oppose to the $(a, b, c, \ldots)$ format which I suggested in this simple example.

Boumans and Leonelli 2019). De-individualization in the profiling stage of the algorithmic mediation is similarly an epistemological activity, although, as the next section will argue, it also has ontological consequences. It cleans the seemingly irrelevant parts of the identity that would complicate profiling for perhaps not bringing much more predictability for the purpose of the algorithmic mediation. Algorithms make inferences and predictions about de-individualized persons at a group-level, which then determines the outcome to be assigned to these persons in the *matching* stage determined by the *design*.

4.3.2 Design: 'matching'

Once individuals are profiled by the "if x " part of the algorithm, the second step of the mediation involves matching these profiles with outcomes that are specific to the algorithmic design. This process adds the "then y, else z" part of "if x, then y, else z" construction. An example of this is the use of postcodes as proxy for creditworthiness. Like in the practice of redlining, the profile, that uses elements of the postcode with good and bad associations, can determine the riskiness of people living in those postcodes. The outcomes to be matched with these people then appear as bad outcomes, for instance, low creditworthiness.

Recall that a person's identity was suggested to have the function $I = f(a, b, c)$, but was profiled as $I = f(a, b, d, e)$. This constructed profile now gets matched with outcomes Y and Z, as Figure 4.7 shows, in a way that is determined in the design.

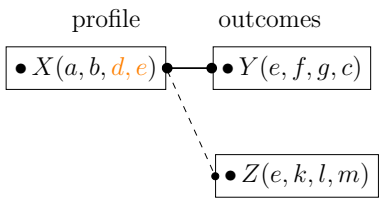


Figure 4.7 Matching profiles with outcomes based on the design

Earlier, I proposed that algorithms have a mediator role similar to models, and just as we often do not know the model construction processes, we often do not know the objective function in the design of algorithms. However, following Boumans (1999), we can use backward reasoning to identify what went into that function. For models, one should take human agency into account to understand them (Knuuttila and Voutilainen, 2003), as they are not only objects but combinations of objects and intended uses (Suarez, 1999). Boumans (1999) shows that human agency is a part of the model-building process; it comes with a justification that is built into the process of modeling and measuring. Applying this idea to the arguments in this chapter, I suggest normativity is built into algorithmic design. That is to say, normativity is built into the whole process of mediating between persons and their profiles, and then these profiles and outcomes, in ways that are mostly determined in the design, which may seem to be seen as neutral, but, nevertheless, have been

constructed through a tailoring process.

In the case of the EU Skills Profile Tool, normativity is built into the *design* of the Tool because it is the design of the tool that enforces, in this simple case, the subtraction of c and addition of d and e shown in Figure 4.6. Consider the case of Eritrean women refugees in the Netherlands. As a researcher at the European Commission division responsible for the Skills Tool told me,[15] the digital skills section was left unanswered when the Tool was applied to the Eritrean women because none of them seemed to have any digital background. In fact, they were said to have not even seen computers before fleeing from Eritrea. In this example, c can be a local and gender specific characteristic that the Eritrean women have not known to the European, and therefore remains unidentified in the use of the Tool. On the other hand, (the lack of) digital skills, which we can denote as d in our simple example, was imposed by the Skills Tool showing what the refugee cannot do.

The Tool is meant to be used flexibly but not by adding or subtracting characteristics from refugees. In contrast, the intention was to tailor the Tool when the profile it produces would not fit the refugee. Thus, two years after its launch and tailoring the refugees in ways similar to the simple example, the Tool has been updated recently with a new configuration feature. This configuration feature allows users to select sections to hide in the outcome profile. In the case of the Eritrean women in the Netherlands, the configuration feature is used to disable the digital skills section so that it does not appear as a blank section as it did previously. This is a significant attempt to make the Tool more flexible.

However, I suggest, even in the more flexible use of the Tool, there is still normativity built into the design that restricts its use. Boumans (1999), arguing justification is built into the model-building process, shows how various ingredients can go into a model: theoretical notions, analogies, metaphors, mathematical concepts and techniques, stylized facts, empirical data, and policy views. He suggests models are constructed by fitting things from different sources together, in a manner similar to baking a cake. Similarly, the EU Skills Profile Tool, like other algorithmic tools, is constructed by fitting analogies, beliefs and perceptions about the 'ideal-type' refugee together. This construction is a tailor-made action; ingredients are normatively chosen. Some ingredients that are built into the design of the Tool can be found in the words of Marianne Thyssen, the European Commission member in charge of employment, social affairs, skills, and labor mobility. At the launching of the Tool on June 20, 2017, she declared:

> This tool ... is a practical IT tool that will help to identify and document the skills and qualifications of refugees and asylum seekers in Europe. It helps to define what they need. It can help to make their migration a success story. The key to that success is integration. If migrants are well integrated, they make the most of a successful and happy

[15]Private communication on August 13, 2019.

> life. Integration is the only way to make the best use out of the diverse talents that migrants bring with them. Talents, which in the face of our ageing society, are very much needed in our economy and on our labor market. With the Skills Profile Tool we launch today, we want to give refugees, asylum seekers and other migrants the opportunity to show who they are and what skills they have in their pockets.[16]

Thyssen's words motivation for integration has two parts: first, from the refugees' perspective, to let them pursue successful and happy lives by making their migration a success story; second, from the perspective of destination countries or Europe in general, to make the best use of the diverse talents migrants bring with them, which is, because of the ageing of society, very much needed in the economy and labor market. It is a belief in a win-win situation that is incorporated into the Tool design. But to get to successful integration a few problems have to be solved, such as the identification of skills. Tools that can help identification, then, would create opportunities for refugees, in Thyssen's words, "to show who they are and what they have in their pockets." This shows another ingredient in the Tool's design, namely, the European Union's commitment to the use of a search and matching approach that perceives refugees as 'pockets of skills' that need to be opened up to be benefitted from.

At a more official launch of the Tool in the European Commission Thyssen said, "With the EU Skills Profile Tool, we can give refugees, asylum seekers and other migrants a human and professional face. It allows them to show who they are and what they can offer to our societies. This way, they can fully put their talents at the use of our labor markets by paving the way to a happy, a successful life."[17] These words, once again, suggest that integration is what both refugees and destination states seek. Her words presume that by default all refugees want to integrate and all destination societies want them to integrate. For this to happen, refugees need to show who they are and what they can offer, and destination countries, or Europe seen as one overall entity, need to help them in this by offering means such as the EU Skills Profile Tool. The metaphor of giving a 'human and professional face' to refugees implies they can be seen, identified, and understood by Europe. One can understand the task as transforming the unknown into a known format such that it can be identified and used in the labor-market matching. Integrating refugees is seen "as creating new EU citizens" (European Commission 2017c, p. 8) by giving them a familiar face.

Thyssen's words do not openly imply that there exists an ideal type of a refugee. They do, however, enforce a specific perception of refugees by describing one scenario about their integration through labor markets rather than other possible ones. The analogies that are used in the Tool description propose a view of refugees like 'pocket of skills' that are seeking a happy life which would be possible if they inte-

[16] `http://ec.europa.eu/avservices/video/player.cfm?ref=I140401`

[17] The exact quotation can be found between 03:32-03:59 of the video in the link: `http://ec.europa.eu/avservices/video/player.cfm?sitelang=en&ref=I140409`

grated into the European labor market. For this integration to occur, the EU seems committed to the use of the search and matching theory. For matching to occur successfully, on the other hand, the skills need to be identified in ways that are designed in tools like the EU Skills Profile Tool. So one can see that there are, indeed, ingredients in the Tool design such as theories, beliefs, analogies, perceptions, policy views and politics, among other possible ones. When these ingredients are "baked in," in Boumans' (1999) terms, it is not easy to identify them in the cake anymore. Moreover, the Tool's autonomy that makes it an instrument of investigation in Morrison's (1999) terms becomes questionable when ingredients in the design do not just mediate between the theory and real world but also determines how the real world is seen.

Recall from chapter 2 that experts and policy makers at a meeting on the integration of refugees, organized by the European Economic and Social Committee of the European Commission in 2017 discussed that 'one-size-fits-all' measures would not lead to adequate job matching for refugees. Rather, more flexible, customized, individualized, and tailor-made ways to identify skills and qualifications are needed. In the meeting, they spoke positively about the Tool and agreed on its potential benefits in identifying refugee skills. It seems that participants assumed flexibility in the use of the Tool; moreover, the Tool itself was considered neutral with respect to its role in 'tailoring' refugees' profiles.

The EU Skills Profile Tool, however, sorts people in a certain way specific to the context with respect to an 'ideal-type' of a refugee in the European imagination, which comes from the ingredients in the design of the Tool. It gives a new – Europe-fit – identity to an individual, but it does so in a way that represents each individual in terms included in the Tool design. Hence the Tool homogenizes refugees and, therefore, is more of a *one-size-fits-all* type as the output from the Tool cannot be so different from how the Tool was designed. This homogenization is similar to one of the three steps that Breslau (2003) distinguishes in process that leads to representations used by policy tools. These steps are abstraction, by which we abstract phenomena from their real-life settings; homogenization, the act of translating abstractions into a comparable metric; and sedimentation, the process by which abstracted and homogenized phenomena become legitimatized by becoming part of official statistics and discourse. This last step relates to the last algorithmic step I propose: assigning the outcome back to the individual in their *use*.

4.3.3 Use: 'Assigning the outcome to the individual'

So far, this chapter has presented algorithmic mediation in two stages: the person is deindividualized into input data by *profiling*, and then *matched* with certain outcomes as determined in the Tool's design. We can assume that the next step is turning the outcome back to the person that was profiled as X. Can this person continue to be the same person when assigned a certain outcome? Or must the person change or have opportunity to change when the assigned outcome is based

on how the person was profiled in the first place? Although the answer would depend on specific cases, this section will argue that the algorithmic mediation *re-individualizes* the person behind the profile X with an assigned opportunity associated with outcome Y. Figure 4.8 is a simple depiction of assigning the matched outcome back to the individual.

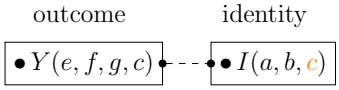


Figure 4.8 Assigning the outcome to the individual

Let us expand our analysis of the EU Skills Profile Tool to see what happens in job-matching when the refugee profile is different from who the refugee is. Remember that the refugee profile has become (a, b, d, e) in the first step of profiling. Assume that this profile is matched with job vacancy (e, f, g, c) on the basis of e as it seems to be the only common characteristic of P and Job as shown in Figure 4.9.

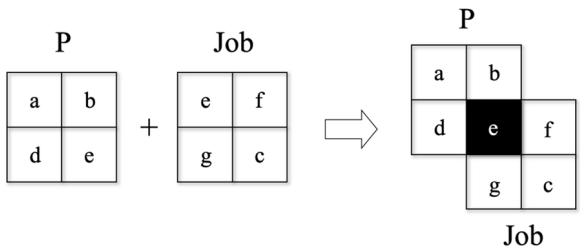


Figure 4.9 Matching of the refugee profile and a job

Remember that the initial R was not identified by e but by (a, b, c). This means that the characteristic on which P and Job match is actually not a characteristic of the refugee. It was assigned. Hence, we wanted the algorithm to represent the refugee's identity, but it represents their profiles as determined in the design. On the other hand, R included c, which could have been a proper basis for matching this refugee and the job if it had been well identified. An example is honesty. Honesty is not a characteristic included in the tool categories; therefore, the skills profile of the refugee does not include it.[18] However, it may be that it is the most important characteristic a job requires. If honesty was identified and included in the profile, it could have been the basis on which the refugee and the employer matched.

The data gap and built-in normativity in design behind the policy tool not only produces a certain type of knowledge, but also stratifies society by sorting

[18]The reader may think that honesty is not a realistic example. However, it is chosen on purpose to emphasize that personal characteristics that may seem intangible and cannot be put on a CV are often times those that make a person differ from others and that have a significant influence in the quality of employment relationships.

phenomena in specific ways. The institutionalization of skills identification can lead to a standardization of what/who a refugee is, and which skills are to be identified. What results from this is a systematic sorting that is not neutral with respect to its construction or to its application.[19] As Figure 4.10 shows, the identity of a person becomes profile X, this profile is then matched with outcomes as designed, and then the outcomes get assigned to the person in a way that re-individualize them.

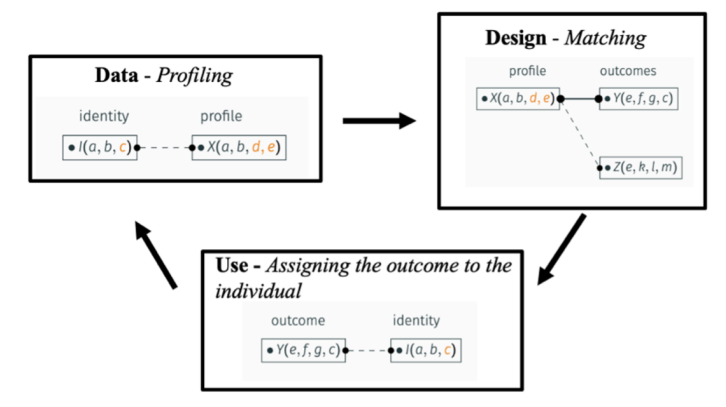


Figure 4.10 The reinforcing character of algorithmic stratification

Mensink (2012) shows that measurement design can create system dependency by measuring things in a way that cannot be changed afterward. The term "system dependency" emphasizes the stickiness of measurements after their, in Breslau terms, sedimentation by becoming part of official statistics and discourse. Similarly, the systematic sorting that I suggest can lead to system dependency on the tool works by assigning certain people to certain places in their work and thus their integration experiences, which is not easily modified afterward. This sorting presents a case for algorithmic stratification.

In the stratification literature, Massey explains stratification mechanisms as "the allocation of people into social categories, and the institutionalization practices that allocate resources unequally across these categories" (2007, pp. 5-6). The allocation of people into social categories can be done by states to avoid 'dirt' and 'mess' and to turn them into meaningful social phenomena and thus intervenable policy problems (Yanow, 2003). This practice of homogenizing and categorizing does not only involve passive representation of social reality but a (re-) construction of it (ibid; Mugge and van den Haar 2016). Algorithms interpret individuals by their group identities, as profiles are made more of group identity characteristics.

[19]This section may raise questions about performativity. Performativity is very relevant for seeing the real impact of the Skills Tool in societies. This chapter, however, focuses on tool design and its mediating and tailoring processes from a methodological perspective. What happens after the utilization of the tool requires a separate empirical investigation and further time to collect empirical facts on the effects of this very recent tool.

Treatment with respect to group identities is a characteristic of group-based social stratification, and hence an important element for social reproduction.

Mittelstadt et al. (2016) argues that algorithms in general have transformative effects and re-ontologize the world by motivating actions based on the insight that they have generated in the first place. Due to these actions, algorithms not only affect how we conceptualize the world but also the way that world is organized socially and politically (Floridi, 2014). I would explicitly add, also economically. The authors argue that the reason for such transformative effects is in part because there is almost never any objectively correct choice to be made in the development of algorithms. Instead, each choice carries over the values of its author. Once frozen into the code, the values are institutionalized (Macnish, 2012).

This re-individualization can also be seen as 'self-fulfilling prophecy' which then re-ontologizes the stratified society. Although refugee identity did not have characteristic e initially, after the outcome of their matched profile was assigned back to the refugee, their identity can include that e as shown in Figure 4.11. Hence, the refugee gets re-individualized to get into similar profiling processes again.

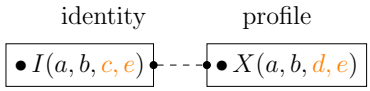


Figure 4.11 Re-individualization

Davis (2022) argues that the public health expertise in times like the current pandemic can act as self-fulling prophecies that influence social behavior resulting as an institutional basis for stratification. Similarly, when a bad outcome of an algorithmic mediation is assigned back to the person who was already in a vulnerable social-economic position, the person is re-individualized as a vulnerable person. Once the position is institutionalized, stratification in society only gets perpetuated, explaining enduring social exclusion. Through new technological systems, existing categories and hierarchies can be kept in place and effectively reinforced (Arora 2016 as cited in van Schie, unpublished manuscript).

Another case in which we can see algorithmic stratification and its processes in *data*, *design*, and *use* is the Dutch Welfare Surveillance Programme "SyRI" (for 'system risk indication'). The Dutch government used to process citizens' personal data since 2014 in its fight against welfare fraud. SyRI was used to decide which citizens need to be investigated further and used by government institutions such as municipalities, the Employee Insurance Agency of the Netherlands (UWV), the social security bank, inspectors of the Ministry of Social Affairs and Employment, and the tax authorities (Chiusi et al., 2020). It is now off table since 2020 due to the court decision that the SyRI Act conflicts with Article 8 of the European Convention on Human Rights (ECHR) and it was wrongly punishing the poor.

As shown in Figure 4.12, SyRI is a risk calculation model/algorithm that takes data from government institutions. The data then gets pseudonymized and enter

the algorithm. The algorithm runs, and a profile as 'suspicious' or 'unsuspicious' gets out as an outcome. Those that fell into the 'suspicious' category get decrypted and reported back to the government institutions.

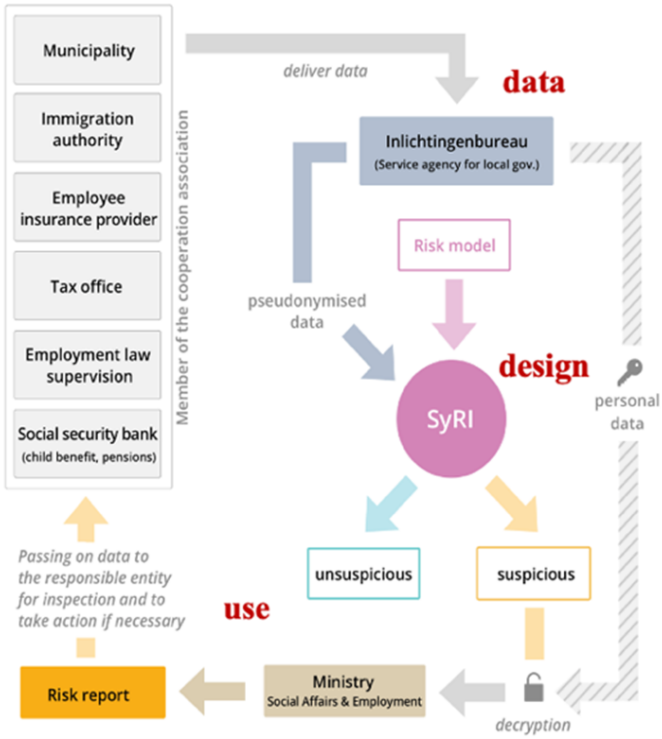


Figure 4.12 The working of the SyRI by Algorithm Watch (Retrieved from `https://algorithmwatch.org/en/high-risk-citizens/`)

We can evaluate this tool with respect to *data*, *design*, and *use*. The *data* comes from the government institutions, hence likely to be a profile of a person rather than who the person is. The profile then is matched with outcomes as determined in the *design* of the SyRI algorithm. The algorithm and its risk calculation model are unknown to the public even though The Court requested them. The designer institution, Ministry of Social Affairs and Employment of the Netherlands, responded negatively suggesting that the details of the model would lead to what is called "calculating fraud" that people would use the knowledge of the model to attempt fraud. However, another case that that happened in the Netherlands around the same time can give insights into the black box of the SyRI algorithm. What has come to be known as 'Toeslagenaffaire' or the 'Dutch childcare benefit scandal' was a case in which double nationality holders were wrongly punished for benefit fraud in the Netherlands. If this case was processed by SyRI, we would know that one element in the algorithm was about holding double nationality to lead to increas-

ing likelihood of fraud, thus 'suspicious' as an outcome of SyRI. Finally, about the use, SyRI is known to be *used* to be applied in 'problem districts' such as those with high migrant-origin population in the city of Rotterdam. In the Toeslagenaffaire case, the use has led to false positives, that is penalizing the migrant-origins wrongly.

Hence, both cases provide an example of bias in algorithmic mediation. In Bembeneck et al. (2021)'s terms, the ideal target of the algorithm was to avoid fraud and increasing living standards in the Netherlands while the actual target, or what the algorithm was actually doing, was profiling the *data*, making inferences from those profiles as determined in the *design*, and *using* this process to certain groups that resulted in penalizing those groups. Therefore, it wasn't *algorithmic mediation* anymore; it was biased and group penalizing and thus presenting a case for *algorithmic stratification*.

We can ask "does all this happen intentionally?" as many contemporary political-moral discussions have asked. The biases in design can be embedded due to biased designers. However, not necessarily; they can also be unintentional and just a reflection of broader, pre-existing social values or technical constraints (Mittelstadt et al., 2016; Friedman and Nissenbaum, 1996). This reflects biases not only in the designs of algorithms, but also in gaps that the input data carries forward, and the use of outcomes that goes out of the algorithms.

4.4 Conclusion

In this chapter, I presented an analytical framework to investigate algorithmic mediation and how it can turn into algorithmic stratification. I reminded the reader about the inherent biases that the algorithms have, which does not make algorithms *social bads* per se. Based on the algorithmic bias accounts of Berbeneck et al. (2021), and Obermeyer et al. (2019), I suggested that algorithms become social bads when their mediation penalizes certain groups in society that are already in relatively vulnerable social, economic, and political positions.

Making a connection between models and algorithms, I suggested investigating algorithmic stratification mechanisms in three steps: *data, design*, and *use*. As the EU Skills Profile case has shown, profiling in the first step in which input data turns 'clouds' into identifiable forms with regard to group characteristics in an attempt to give refugees a 'familiar face' based on which they can match with jobs. Tackling the identification problem involves mediating between the refugees and their representation. In the models literature, Morrison and Morgan (1999) have argued that if the representational power of models cannot be improved, this does not necessarily lower the epistemic value of models (1999, p.28). Similarly, I suggest, policy tools can never perfectly represent and describe human beings; the value of the tool should not be limited to this representational power but should be considered in its mediating role.

Nevertheless, the mediating role of algorithmic tools are not (necessarily) neutral.

Although EU institutions want the EU Skills Profile Tool to be flexible, analysis in the second stage of algorithmic stratification has shown that there is built-in normativity in the design of the tool, which matches profiles with certain outcomes in a one-size-fits-all way. This one-size-fits-all way may be necessary for standardization in that it provides the benefit of common standards in the case of this policy tool. However, the *one-size-fits-all* way is not *any-size-fits-all*; it is the size that is seen as standard in the eyes of designer institutions. As Criado Perez (2019) claims, the world is designed for men by men, and thus the standard is one-size-fits-men. I would go a step further and suggest that it is one-size-fits-average-man and the algorithms tend to perpetuate this seemingly natural tendency. The one-size-fits-average-men type design of algorithms can create system dependency and limit flexibility in the use of algorithmic tools as there is normativity already built into the tool design thus the tool categories cannot be fundamentally changed afterwards. Hence in the EU Skills Profile Tool case, the tool involves in tailoring refugees' skills in a biased and group-penalizing way as the output from the Tool cannot be very different from how the Tool was designed. Therefore, the face given to refugees is subject to the limits of the tool design.

The third step has shown that when the outcomes of algorithmic tools are assigned back to the individuals as determined in the design, individuals get re-individualized in a way that tends not to leave much room for changing their social, economic, political positions in the society. Hence, algorithms reproduce already existing disparities and exclusion in re-ontologizing a stratified society.

What needs to be done to reverse this reproduction? The classical answer to the algorithmic bias problems in the literature is to find foundations and clear steps for mitigating biases. Despite the existing issues about algorithmic transparency, I suggest it is important to find ways to investigate the data and its gaps that go into algorithmic mediation, design that is normative, and attempts to set up institutions for not only efficient but also and more so fair use of outcomes. Given that profiling can lead to normative implications of a certain sorting that perpetuates stratification, awareness of this mediation should be an explicit target in the policy-tool data, design, and use.

As Boumans and Morgan (2001) and Boumans (2005) emphasize, one should not only consider which factors are absent (*ceteris absentibus*), but also which can be ignored because of their small effects (*ceteris neglictis*), and which are present but unchanged (ceteris paribus) (see also Morgan and Knuuttila 2012). I suggest that working with algorithmic policy tools as mediators requires a commitment to constantly consider the absent effect, the small effect, and the present but constant effect. Because of their non-neutral nature, algorithmic tools themselves should become an object of research taking systematic outputs into account.

Data, and tools to create and organize data, will have increasing importance. Being aware of this lack of direct correspondence, and involvement of gaps in data, normativity in design, and re-ontologizing potential of use, one should keep an eye on the potentially "false confidence of presumed omniscience" as Elinor Ostrom

argues (1990, p. 168) – in this context, the false confidence of presumed flexibility, efficiency, and objectivity in the use of algorithms.

CHAPTER 5

Conclusion: *Beyond the Average Man*

This dissertation presents a political economy of identity. It develops novel accounts to explain some of the ways in which identity-based stratification mechanisms operate in markets and policy. It is primarily applied to the study of migration and integration, and bridges various approaches and literatures such as the standard economic approach and stratification and feminist economics with the empirical phenomena of migrants' integration in an original conceptual way. It is a thesis in political economy in that it is motivated to reflect the complexities and nuances of real-world mechanisms and to move forward the attempts to include identity in our understanding of power relations that are embedded in our economies and societies.

The introductory chapter raised the problem of rising inequalities and asked what underlies them. I argued that our standard understanding and examination of inequality gaps is a one-size-fits-all approach. However, what this one size fits is only the *average man*. Identity is a missing concept not only in our understanding of inequalities but also in economics in general. I argued this needs to change: the current social, political, and scientific movements challenge the normality of average man to free people's identities from being defined only as deviation from it. Identity can help formulate and investigate who and how questions that are too infrequently asked in economics. Who people are and how they are seen and labeled and consequently treated matter, as does identity beyond the average man. It helps explain the inequality gaps of our day and debunks the old belief that presents the average man as the norm.

In chapter 2, I diverged the migrants' identities from the dominance of the average man's identity in integration models. First, I reviewed how standard economic search and matching theory is used to explain migration and integration. Then, I investigated the frictional understanding in job matching in connection

with integration theory and concerning policy. Arguing that we need to go beyond standard search theory and try to understand the sources of frictions, I explained post-migration integration in terms of identity-based matching between migrants and social groups, which I called "a social identity based matching approach to migrants' integration." This account switches the basis for job matching from prices to social identities, in order to explain migrants' interactions in host countries in terms of individual-to-group types of interactions rather than in terms of individual-to-individual types of interactions that standard approach employs. Thus, I proposed a shift from an isolated individual economic matching approach using the market mechanism to an identity-based matching theory approach using social interaction to explain migrants' integration. I concluded the chapter by highlighting the necessity to understand integration to be embedded into *established social systems*.

In chapter 3, I focused on the issues of power, institutions, and exclusion to explain the gaps in migrants' integration into established social systems. I introduced social stratification as a structural approach to group-based inequalities and used it to explain social identity-based institutional structures that systematically subject migrants to different forms of exclusion in labor markets. Revisiting the standard goods typology that classifies different types of goods, I argued that exclusion is endogenous to employment when employment is considered a type of good. Exclusion in this account occurs not solely at the individual level but is constantly reinforced by a how institutions affect different social groups. The chapter then discussed whether stratification is an *inescapable trap* for some social groups. I treat different types of employment opportunities such as clubs, and investigate how migrants join or create alternative employment clubs as a response to real or perceived exclusion from native employment clubs. If these alternative clubs are "sticky" and discourage migrants from joining natives' employment clubs, the trap becomes inescapable. This then suggests the failure in migrant integration through the labor market is a collective action problem associated with how societies organize labor markets into different destinations or clubs with sharply different sets of opportunities. The chapter closes by discussing how migrants can get out of the stratification trap by considering employment not only as an investment but as a collective action problem about exclusion.

In chapter 4, I presented *algorithmic stratification* as a showcase for identity-based mechanisms that perpetuate the stratified society. Addressing the increasing use of algorithmic operations, and automated decision-making (ADM) systems in general, I reminded the reader of the inherent biases that the algorithms have, which does not make algorithms social bads per se. Based on the algorithmic bias accounts of Berbeneck et al. (2021), and Obermeyer et al. (2019), I suggested that algorithms only become social bads when their mediation systematically penalizes certain groups in society that are already in relatively vulnerable social, economic, and political positions. The punishment of relatively disadvantaged and vulnerable identities reinforces social exclusion and power imbalances. This is how algorithmic mediation turns into, what I called, *algorithmic stratification*. I then constructed a common ground between algorithms and general modeling and measurement

practices to identify the characteristics and mechanisms of algorithmic stratification in three steps: *data, design*, and *use*. Mechanisms in these three steps are then applied to and analyzed in connection with mainly the EU Skills Profile Tool used by the European Commission and briefly a Dutch Welfare Surveillance Programme "SyRI" (for 'system risk indication')."

Overall, this dissertation was an attempt to contribute to opening the black boxes behind inequality gaps, identities, and stratification mechanisms that produce and reproduce a structural relationship between them. The main message was that *who* people are and *how* they are seen, labeled, and consequently treated matter, as does identity beyond the average man. The remaining conclusions can be drawn with a and a *how* question: First, *who* is beyond the average man? Second, *how* can they escape the stratification traps?

Who is beyond the average man?

In this dissertation, the main identity that was discussed beyond the average man was that of the migrant. By exploring this identity, I showed the shortcomings of the assessments of migrants' performance and integration in general by accounts that look only at skills. I problematized the common attitude to see the migrant as 'the other,' and to see the migrant only in relation to the non-migrant by ignoring variety of social and political dimensions that are present in integration processes.

But the migrant is not the only 'other' beyond the average man. Simon de Beauvoir argued that woman is also seen as the other: "She is defined and differentiated with reference to man and not he with reference to her; she is the incidental, the inessential as opposed to the essential. He is the Subject, he is the Absolute – she is the Other" (1953, p. XVI). And black is seen as 'the other,' as are other minority racial identities. LGBTQ+ is another other.

Many more identities are 'other' when they are seen and treated only in reference to the average man. The average man is the identity norm; it determines normality. But, as Boumans argues, "the determination of normality implies an assessment of its deviations" (Boumans 2021, p.8). Once the average man is the identity norm, other identities will be assessed as deviations from this norm. This then will reflect on how persons with non-normal identities will be treated. The deviations from that *one-sized* identity of the average man are seen as statistical 'noise.' In comparison to God's perfection, in Desrosières's terms, deviations are seen as inferior. This inferiority has different labels in various contexts: error, abnormal, anomaly, dirt, mess, disorder, and even monster.

Would these deviations be seen as monstrous if there was not an average man in the first place? Boumans problematizes normality and its monsters. He argues,

> The problem of defining what is normal is that it creates its own monsters which one subsequently wish to expel. [...] Monsters are clusters that appear at some distance from the central cluster. If a cluster consists of only a very few items, it is harmless: the items are "outliers"

> that can be ignored. If these clusters are big, they are seen as threats against order, which is the order determined by the central cluster, the normal. The closer these clusters are to the normal, the more dangerous they are (Ibid.).

This argumentation follows the concept of 'dirt' from Mary Douglas in that "dirt is the by-product of a systematic ordering and classification of matter, in so far as ordering involves rejecting inappropriate elements" (Douglas, 2002, p. 44). Once the deviations, thus the identities that are not of that *one size*, are seen as monsters, cleaning them becomes a standard epistemological activity for systematization. Douglas continues, "In the end, all identity is gone. [...] So long as identity is absent, rubbish is not dangerous" (Ibid., pp. 197-8).

Identities need to be seen beyond the average man. In fact, we may consider average man as a reference point for one last time: to go beyond it. Seeing them means inclusion. A challenge to inclusion is that including one identity can lead to the exclusion of another. This remains a paradox in identity related work. Nonetheless, it does not mean we stop seeing, measuring, and acknowledging identities. The 'other' needs to be identified, named, included, and become a part of the normal. This inclusion paradox makes us aware of the need to constantly think about the 'other' in its changing forms, and the stratification mechanisms that reproduce them.

How can 'the other' escape the stratification traps?

First, identity needs to be understood in terms of how we model and measure inequality gaps. We need to go beyond the standard economic approach and provide structural explanations for broader social, political and economic dimensions. As the UNDP's HDR 2019 suggested, we need to develop ways to measure emerging new forms of inequality: "Good policies start with good measurement, and a new generation of inequalities requires a new generation of measurement. Clearer concepts tied to the challenges of current times, broader combinations of data sources, sharper analytical tools—all are needed" (2019, pp. 3-4). This is one way by which we can turn our scientific work into a social good to assess social injustice and find ways to reduce it (Waglé, 2013, p. 85).

Second, identity and identity-based inequalities need to become a structural part of our assessment of economies and societies. There are many emerging attempts to replace GDP with a broader and more representative account of how our economies are doing. Many of these alternative approaches miss the identity dimension: if they account for inequality, it is done in terms of the Gini coefficients, or wealth shares. However, neither the Gini nor income and wealth shares can account for identities beyond the average man. We need go beyond income and wealth inequalities. Fortunately, there are compelling alternative approaches such as Stratification Economics and Feminist Economics that focus on economic and political institutions for a deeper, systemic, and intersectional understanding of the mechanisms behind inequalities by looking at the interplay between identity and wealth and income

and structurally discriminating labor markets. These approaches need to be embraced more and gain more visibility for explaining how we understand and assess our economies and societies.

Third, we need to think beyond state and markets. A common economic approach to inequality problems is based on one of two fundamentally different views of distribution, as Waglé explains,

> [The first view is] the classical liberal view [that] accepts poverty and inequality as a necessary byproduct of the well-functioning market capitalism. The distribution produced by the market is considered optimal as it allocates and distributes resources on the basis of market incentives and monetary values. [. . .] Any external intervention in this market-driven process can lead to inefficiency, undermining the power of a free market system. [The other view is] the egalitarian system of Marxist political economy in which the operation of an economy cannot be separated from the political power. In a market economy, the capitalist class and the working class engage in a constant struggle over the control of resources. Given that the private market rewards factors of production unequally leading to highly unequal distribution of resources, this view underscores the active role of political power, or the state, in managing the economy for a fair and egalitarian distribution. (Waglé, 2013, p. 85)

This leaves us with the classical States versus Markets dichotomy. Markets do not work by themselves; they will not alone yield equitable solutions to society. Government spending and taxes can reduce inequality. Pre-distribution is one way to incentivize greater equality of opportunities; the other is redistribution such as in welfare states.

However, stratification requires going beyond a simple correction, or a simple state versus markets dichotomy. Stratification mechanisms are inherent in both markets and policies. They can even go hand in hand. For instance, power concentration and thus exclusion in markets and the state capture can reinforce each other in a way in which economic power translates into political power (van Bavel, 2016). As Bas van Bavel argues,

> Today, even in parliamentary democracies, economic wealth again seems to be translated into political leverage – through lobbying, campaign financing and owning media and information [...]. History shows that these developments are not aberrations or accidental events. And perhaps they require broader and deeper consideration of a wider range of policy actions to curb the concentration of economic and political power. The concentration of economic power [wealth], the first stage, is easiest to curb. But after the establishment of economic power and its translation to political dominance, this is far harder to do" (UNDP 2019, p.60).

The stratification mechanisms presented in this dissertation are embedded in

variety of forms and levels. Therefore, we need to examine the inseparability of the economic from the social and political, and how identity informs actions both in markets and policies. Some examples of policies provided by stratification and feminist economics scholars are baby bonds (Darity and Hamilton 2010, 2012), reparations to overcome racial wealth gaps (Darity and Mullen 2020), and investment in care (De Henau et al., 2016; De Henau and Himmelweit, 2021).

Fourth, we need to include the ideas of 'transformation' and 'changing forms' of identity dynamics and stratification mechanisms at the core of our economic understanding. Labor market matching needs to unpack its skills emphasis and focus on changing forms of social exclusion and power relationships. Stratification is not only about reinforcing the existing forms of social stratification. It also has transformative effects. In the case of algorithmic tools that are used in both markets and policies, we have seen how they can de-individualize persons by profiling them, and then re-individualize them by matching certain outcomes with these profiles. This reminds us what Virginia Woolf said: "I am made and remade continually. Different people draw different words from me" (1931, p. 87). We are made and remade continually; our identity is not only who we are but how we are seen and treated. This, at a macro level, re-ontologizes our societies in different forms and ways that our one-size-fits-all way of thinking does not detect.

Fifth, we need to account for the inseparability of epistemologies and ontologies. The average man is in the heart of the workings of not only markets, but also states, the social fabric, and therefore also at the heart of economic analysis. Stratification mechanisms that perpetuate a biased world of the average man are embedded in our understanding and actions. Our epistemological and ontological activities are interdependent in that they reproduce stratified societies even if unintentionally. Our knowledge production, hence, construction, that operates with one size as the average man is political such that our epistemological activities lead to ontological consequences in the form of the gaps between people. We need to talk about the power of such knowledge in today's world.

The times were different when Hayek raised the question: "What is the problem we wish to solve?" (1945, p.93). He suggested it was a knowledge problem: knowledge was so dispersed and scattered that only the price system and thus the markets were able to coordinate people's activities. The knowledge problem of our day still concerns the dispersion of knowledge. However, both knowledge and the power to use it belong disproportionally more to markets and states than to people. In the presence of algorithms ruling many interactions, and both states and markets using them proceed without the awareness or consent of individuals and groups they affect.

Algorithms and automated decision-making systems will keep mediating social, economic, and political processes. Being aware of the involvement of identity related gaps in data, normativity in design of algorithms, and re-ontologizing potential of their use, one should keep an eye on the potentially "false confidence of presumed omniscience" as Elinor Ostrom argues (1990, p.168), to be more precise in this

context, the false confidence of presumed flexibility, efficiency, and objectivity in the use of algorithms especially relating to the new normal of our day, migration (Obeng-Odoom, 2021). We need a constantly on-going conversation to make sure "today's inclusion will not be tomorrow's exclusion" (European Commission 2019, p.23). This requires continuous courage and efforts to track systematic persistence of exclusion and find ways to break social identity-based stratification, even if this may benefit some groups or countries in the short term.

What is needed is a critical political economy approach to address identity-based stratification traps and their mechanisms at three levels: The first level is the conceptual and theoretical framework such as developed in this dissertation. The second level is the analysis of measuring instruments for their reinforcing and reproducing character of stratification. And the third level engages cases about real world mechanisms aiming to improve our markets, economies, and societies. I believe this is how what we economists do can become a social *good* for a more inclusive and just future.

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Nederlandstalige Samenvatting

Wat ligt ten grondslag aan de kloof tussen de *meer en minder bedeelden*, en waardoor blijven deze verschillen in inkomen en vermogen in stand? *Human capital*, sociale klasse en locatie kunnen worden gezien als de belangrijkste oorzaken van deze verschillen. Ongelijkheden in termen van toegang tot gezondheidszorg en onderwijs worden vaak als het gevolg gezien. Ondanks de erkenning van deze veelheid aan oorzaken en gevolgen en de complexiteit van de onderliggende mechanismen, beperken de meeste economische studies zich tot verschillen tussen rijk en arm. Deze visie, in lijn met de opwaartse mobiliteit uit de *American Dream*, is gebaseerd op de gedachte dat als mensen de juiste keuzes maken en hard genoeg werken, ze de ongelijkheidskloof kunnen overbruggen. Deze veronderstelling past bij een specifieke opvatting over marktmechanismen, waarbij personen worden gezien als "individuen" en ongelijkheden als "toevallige" gebeurtenissen.

Een studie naar ongelijkheden, de verscheidenheid van hun vormen en onderliggende mechanismen vraagt om onderzoek dat verder gaat dan de *gemiddelde persoon*. Zo'n studie neemt de begrippen identiteit en uitsluiting tot de kern van zijn analyse. Op identiteit gebaseerde uitsluiting speelt een structurele en functionele rol bij het handhaven van de hiërarchische stratificatie van sociale groepen. Dit proefschrift presenteert een politieke economie van identiteit en op identiteit gebaseerde stratificatiemechanismen. Het probeert de zwarte dozen van ongelijkheidskloven, identiteiten en stratificatiemechanismen te openen met een kader dat verklaart hoe op identiteit gebaseerde stratificatiemechanismen doorwerken in markten en beleid. Het wordt in de eerste plaats toegepast op de studie van migratie en integratie, met de ambitie om met de verworven inzichten bij te dragen aan het begrijpen van de werking van de stratificatie van andere groepen. Daarom worden de standaard economische benaderingen geïntegreerd met theorieën over stratificatie en feministische economie, en met empirische studies over de integratie van migranten. Aangetoond zal worden dat de identiteit van mensen, hoe ze worden gezien en gelabeld, en behandeld, bepaalt aan welke kant van de kloof ze zich bevinden.

Het eerste hoofdstuk behandelt de mechanismen van ongelijkheid. In dit hoofdstuk wordt betoogd dat ons standaard begrip en onderzoek van ongelijkheidskloven een *one-size-fits-all* benadering is. De "maat" die in deze benadering wordt gebruikt, is echter alleen geschikt voor de gemiddelde persoon. De gemiddelde persoon wordt gezien als de norm(aal), als *reference man*. Hierdoor worden ongelijkheden

meestal alleen bestudeerd in termen van afwijkingen van deze gemiddelde persoon. Voor een meer omvattende analyse van ongelijkheden ontbreekt het concept van identiteit. Identiteit kan helpen bij het formuleren en onderzoeken van wie en hoe vragen. Hoe mensen worden gezien en gelabeld en vervolgens worden behandeld, doet er toe.

Het tweede hoofdstuk begint met het bespreken van de standaardbenadering van de integratie van migranten. Deze benadering gebruikt de zoek- en matchingstheorie als een analytisch instrument om migratie te begrijpen. Deze benadering kan geen verklaring bieden voor de heterogeniteit van arbeidsmigranten en de complexe aard van hun interacties met hun nieuwe omgeving. Om dit te doen, is er een op sociale identiteit gebaseerde matching-benadering nodig. Deze laatste benadering verschuift de focus van de analyse van prijzen naar de analyse van sociale identiteiten, om de integratie van migranten in gastlanden te verklaren in termen van interacties van individu tot groep in plaats van in termen van interacties van individu tot individu.

Het derde hoofdstuk behandelt de fricties in het integratieproces van migranten. Het behandelt he probleem van structurele uitsluiting op de arbeidsmarkt en de rol van macht en instellingen bij de integratie van migranten op de arbeidsmarkt. Het introduceert daarom een benadering van op groepen gebaseerde ongelijkheden door gebruik te maken van het concept van sociale stratificatie. Het concept van sociale stratificatie wordt gebruikt om uit te leggen hoe op sociale identiteit gebaseerde institutionele structuren migranten systematisch onderwerpen aan verschillende vormen van uitsluiting op de arbeidsmarkt. Het hoofdstuk betoogt dat uitsluiting inherent is aan werkgelegenheid en dat er een verband bestaat tussen wie migranten zijn en wat hun positie is in de sociaaleconomische systemen na migratie. Uitsluiting vindt niet alleen op individueel niveau plaats, maar wordt voortdurend versterkt door de manier waarop instituties verschillende sociale groepen beïnvloeden. De ongelijkheid wordt meer veroorzaakt door de sociale stratificatievallen dan de kwalificaties van migranten. Het hoofdstuk bespreekt vervolgens of stratificatie voor sommige sociale groepen een onontkoombare val is. Daarom worden verschillende soorten van werkgelegenheid behandeld als *clubs* om te onderzoeken hoe migranten zich aansluiten bij of alternatieve werkgelegenheidsclubs oprichten als reactie op echte of vermeende uitsluiting van autochtone werkgelegenheidsclubs. Als deze alternatieve clubs "plakkerig" zijn en migranten ontmoedigen om lid te worden van de werkgelegenheidsclubs van autochtonen, wordt de val onontkoombaar. Het mislukken van de integratie van migranten via de arbeidsmarkt wordt dus verklaard als een probleem van collectieve actie waar arbeidsmarkten clubs zijn met sterk verschillende kansen. Het hoofdstuk wordt afgesloten met een bespreking van hoe migranten uit de stratificatieval kunnen komen door werk niet alleen als een investering te beschouwen, maar ook te zien als een fenomeen waarbij collectieve uitsluiting een rol speelt.

Het vierde hoofdstuk introduceert het concept van 'algoritmische stratificatie' als een voorbeeld van op identiteit gebaseerde structurele uitsluitingsmechanismen.

Het onderzoekt de manieren waarop de werking en het toenemende gebruik van geautomatiseerde besluitvormingssystemen (ADM), en algoritmen in het algemeen, bijdragen aan de sociale reproductie van een gestratificeerde samenleving door identiteiten en daarmee de samenleving te "re-ontologiseren." Het brengt de vragen uit de vorige hoofdstukken samen met vragen over deze technologische hulpmiddelen en breidt de op identiteit gebaseerde gevallen van structurele uitsluiting uit van die van migranten naar andere identiteiten, zoals op basis van ras en geslacht. Het laat de mechanismen van algoritmische stratificatie in drie stappen zien: data, ontwerp en gebruik, voornamelijk toegepast op de EU Skills Profile Tool die door de Europese Commissie wordt gebruikt en ook, maar korter op een Nederlands Welfare Surveillance Program "SyRI" (voor "systeemrisico-indicatie").

Het vijfde hoofdstuk rondt het proefschrift af met enkele conclusies en onderwerpen voor toekomstig onderzoek. De belangrijkste conclusie is dat de identiteit van mensen er toe doet, hoe ze worden gezien en gelabeld, en dus ook behandeld. Om ongelijkheid te verklaren, moeten we de identiteit van mensen identificeren die verder gaat dan die van de "gemiddelde persoon." De overige conclusies worden getrokken met betrekking tot deze identiteiten en stratificatievallen.

Curriculum Vitae

Merve Burnazoglu was born in Ankara, Turkey, in 1989. She completed a BSc in Economics at Hacettepe University, Turkey, and an MSc in Economics at the Aix-Marseille School of Economics, France, specializing in Public Policy Analysis and Philosophical Foundations. In addition, she has visited the University of Bayreuth, Germany for a fast track in MA in Philosophy & Economics, and the University of Strasbourg, France, for an exchange year in Economics. During her PhD research at the Utrecht University School of Economics between 2016 and 2022, Merve simultaneously worked as a lecturer in the Economics and the Philosophy, Politics and Economics (PPE) Programs at Utrecht University, and as a financial analyst at a private company. Between 2017 and 2022, she was an Adam Smith Fellow at the Mercatus Center of George Mason University in the US. Merve presented her research in over thirty conferences including those that are organized by the American Economic Association (AEA/ASSA), and the Dutch Ministry of Justice and Security. She holds several council, coordination, and organization roles at the European Association for Evolutionary Political Economy (EAEPE), the Institute for New Economic Thinking (INET) Young Scholars Initiative (YSI), the Association for Social Economics (ASE), and the Society for the Social Sciences of Quantification (SSSQ). In addition to her publications that appear in this dissertation, Merve has other academic work such as a co-authored book review on the real-world perspective in economics education, and a (co-)guest-edited special journal issue on Stratification Economics. Currently, Merve is an Assistant Professor of Philosophy, Politics and Economics as part of the Applied Economics Section at the Utrecht University School of Economics.

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The Political Economy of Identity-Based Stratification Mechanisms in Markets and Policy

by

Merve Burnazoglu

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