Measuring Meritocracy: A framework for investigation

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Abstract
What is meritocracy? Those left behind by systems claiming to be meritocratic, and those interested in their fate, have called the possibility of a fair meritocracy into question, and recently these calls have gotten louder. Our driving conviction behind the project is the idea that much of the disagreements stem from the ambiguity in the term, and that this ambiguity is perpetrated because it has never been measured or even operationalized. We spend the first two sections distilling the definition and tensions. We position our definition between the critics who view it as the modern version of “Just World Hypothesis” and the proponents who hope to have solved issues of distributive and allocative justice once and for all. We find quickly that complete meritocracies are nonexistent (and not interesting to our purposes), and that the best working definition is that of a negative composite view of meritocratic processes in an industry. The strength of our negative model lies in measuring the weight of all the factors that should not have been of influence in moving from one stage to the next, had the process been meritocratic, minimizing confounding and selection bias. After introducing the operationalized form, we use structural equation modeling to apply our measurement to the medical and military industries in the United States. We find that elements contributing to a career process are best analyzed as discrete points: this lets us make more valuable statements than “the coding world is extremely meritocratic” or “people from poor socioeconomic backgrounds have worse career prospects” and identify the point where factors of convergence would have the biggest effect.

Keywords
meritocracy, measurement, social stratification, mobility, statistics, fairness

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Measuring Meritocracy: A framework for investigation

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ABSTRACT

What is meritocracy? Those left behind by systems claiming to be meritocratic, and those interested in their fate, have called the possibility of a fair meritocracy into question, and recently these calls have gotten louder. Our driving conviction behind the project is the idea that much of the disagreements stem from the ambiguity in the term, and that this ambiguity is perpetrated because it has never been measured or even operationalized. We spend the first two sections distilling the definition and tensions. We position our definition between the critics who view it as the modern version of “Just World Hypothesis” and the proponents who hope to have solved issues of distributive and allocative justice once and for all. We find quickly that complete meritocracies are nonexistent (and not interesting to our purposes), and that the best working definition is that of a negative composite view of meritocratic processes in an industry. The strength of our negative model lies in measuring the weight of all the factors that should not have been of influence in moving from one stage to the next, had the process been meritocratic, minimizing confounding and selection bias. After introducing the operationalized form, we use structural equation modeling to apply our measurement to the medical and military industries in the United States. We find that elements contributing to a career process are best analyzed as discrete points: this lets us make more valuable statements than “the coding world is extremely meritocratic” or “people from poor socioeconomic backgrounds have worse career prospects” and identify the point where factors of convergence would have the biggest effect.
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INTRODUCTION

“Work hard, and you shall succeed”

“You reap what you sow.”

These sayings, which exhort us to do our best and to avoid slacking, encompass the idea that what it takes to succeed in the world is some combination of talent and personal effort. The American dream itself, relies on a loosely defined, always accepted, hardly achieved word, which resists concise definition. Meritocracy, as the fabric of a society. Everyone seems to have notions of meritocracy, and outside recent academic scholarship, it is generally viewed as something positive. It does away with all the uncomfortable feelings that arise from arbitrary injustices. In Capital in the 21st century, Thomas Piketty formulates this tendency as the foundation of our democratic modernity “namely the belief that inequalities based on individual talent and effort are more justified than other inequalities— or at any rate we hope to be moving in that direction.” Those left behind by systems claiming to be meritocratic, and those interested in their fate, have called the possibility of a fair meritocracy into question, and recently these calls have gotten louder. In this paper we spend the first two sections distilling the terms meaning and the tensions that arise when we attempt to define it. We position our solution between the critique and praise of the idea, in order to reach a justified true belief, which doubles as our working definition. Our driving conviction behind the project is the idea that much of the disagreements stem from the ambiguity in the term, and that this ambiguity is perpetrated because it has, to our knowledge never been measured or even operationalized. Studies of Inequality were propelled forward with the advent of the
Gini coefficients and ‘Robin Hood Index. Happiness can be tracked over time with a WHI. While social concepts are never perfectly captured by models, modeling nonetheless allows for some accountability. Additionally, should the framework presented here turn out to be flawed, it welcomes improvement and perfection, in a way critics of meritocracy can rarely provide. After detailing the construction of the measures, we attempt to apply them to the Medical and Military industry in the United States.

Literary Overview

When asked to write about meritocracy, the first thing Amartya Sen finds to say is that it is underdefined. What he does find is that as an extension of a system of rewarding merit based on the results of an action. The problem: in most attempts at a definition we are eluding the crucial question in the center: what is merit and how does it arise from our action? Meritocracy as governance and as dream fabric has grown to encompass subtle claims about justice, social mobility and inequality, but fundamentally, a person’s ideas of merit feed into their ideas of meritocracy. As Sen, points out: To define what constitutes merit, we need to agree on what society considers to be “Valued Consequence”, because Society's values determine the actions to be rewarded. This in phrasing opens new challenges, namely: who does the rewarding, with what legitimacy, to whom and when? Meritocracy is tangentially related to notions of desert, governance and justice, and examining them will help us circle closer to the concept and its consequences.
Intuitively, what makes merit based systems acceptable, is our democratic agreement that someone deserves their entitlements. You only deserve a treatment, in so far as it is generally, broadly agreed that you should have it. Whether this agreement must stem from a consensus (Democracy), or is implied by the reward you receive from the market (Capitalism) or should fulfill some objective truth (Ontological), is not specified in the idea of desert, but the choice will have large implications for its application. The difficulty, in turn is that “desert is a more purely normative concept, while entitlement is a sociological or empirical concept. If some social or legal institution is in place in your social group, and that institution has a rule that specifies some treatment for those who have some feature, and you have the feature, then you are entitled to that treatment.” But a moral, capitalist or democratic view might think you don’t deserve it at all.

What is true of the structure of desert is also true of the structure of meritocracy: ‘desert is a three-place relation between a person, the grounds on which she is said to be deserving (the desert basis), and the treatment or good which she is said to deserve (the deserved good)’”. We can take this three-place relation, and focus on the last two, to elucidate what rewards should be associated with merit (is it only powerful positions, do we consider money associated with each, should the size of the reward be related to the grounds), and on the grounds on which someone is said to have merit (the question will be split into its absolute value, and those parts which can reliably be studied).

The term is also used to refer to a system where those who have power earned it. We will need to distinguish between these two conceptions, which would in the long run amount
to the same outcome, but at present evaluation differ in a key point: one system talks about allocation as an action, the other as an outcome. If a society allocates power meritocratically for long enough would it end up in a meritocracy.

Finally, discussions of meritocracy are closely related to discussions about Justice at large, and distributive justice in particular. We can situate the terms definition between Nozicks entitlement theory and Rawls difference principle. For Nozick, justice involves three things, namely 1. Justice in acquisition: how the first acquisition in property rights over something not previously owned, was made 2. Justice in transfer: how you acquire property rights over something that has been transferred (e.g. by gift or exchange) to you by someone else; 3. Rectification of injustice: how to restore something to its rightful owner, in case of injustice in either acquisition or transfer. Nozick’s theory of justice claims that whether a distribution is just or not depends entirely on how it came about. The strength of Nozick’s conception is that after a voluntary transfer we need not be concerned with the intricacies of a new distribution (so the inequalities that arise under a meritocracy, would not be problematic to a Nozickian). Another strength is the focus on individual agency: there is no assumption of a general consensus or public will to make an exchange between two consenting people just or egalitarian. The only thing “we” as a society need to agree on is what constitutes a voluntary exchange. And therein lies its’ weakness “voluntary” is a weak claim if it excludes internalized coercion, or limited preferences, and hard to prove if it does. Furthermore, if we make a collection of all previous injustices and aim to rectify them, the combination of 1, 2 and 3 is not contentious at all. The debate is not about the outcome of these three logically formulated
premises, but rather about their applicability in any real society. In our study of factors influencing an income, we use predictors such as family wealth, race, and neighborhood characteristics, alongside those of intelligence and effort, to predict someone’s professional success. If wealth was acquired through slavery or colonization, or if institutional sexism has long bearing effects, a society is only just insofar as it manages to rebalance these injustices.

By contrast, justice according to equality, need, desert or Rawls’ Difference Principle depends entirely on the ‘pattern’ of distribution at that moment.

1. Each person is to have an equal right to the most extensive total system of equal basic liberties compatible with a similar system of liberty for all; and

2. Social and economic inequalities are to be arranged so that they are both:

   a. To the greatest benefit of the least advantaged

   b. Attached to offices and positions open to all under fair equality of opportunity.

Rawls could only accept meritocracy if the injustices meant the most able governors were there to help the least well off (if that was their function). This provides the backdrop for the debate about equal opportunity vs. non discrimination as well as desert vs. merit. A strict egalitarian like Rawls would have an issue with meritocracy because at its’ core it is disconcerted with the fate of the least well off, but well with the resulting distribution (the most able should be in place). Nozick would take issue with its’ interventionist stance about “attributing roles to the most able”.

In this revisionary project, it will be our chief concern to avoid normative statements about merit based systems. We want to examine only whether a society has succeeded in
bringing about a system that rewards their valued consequences, but not whether those consequences are valued correctly by everyone, or whether leaders shaped these preferences. The discussion of fairness in relation to meritocracy will be confined to equity as a condition, and fair treatment in hiring/promotion decisions and not in an overarching evaluation. Whether a meritocratic outcome is desirable is the subject of an equally contentious debate.

What we have to decide as we construct a definition of meritocracy is whether it concerns processes or patterns of outcomes, if it must be a strict view (close to a desertocracy) or can be liberally interpreted as the outcome of the most talented. We also have to decide its relation of priority with equal opportunity: whether it is there to enable equal opportunity in a neoliberal sense (by opening positions to the best) or whether it presupposes equal opportunity.

The trivial critique

It shouldn't surprise the reader that the tensions detailed above, have fueled criticisms against claims of the sort “XY is a meritocracy”. The most common one takes the strict view of meritocracy as its victim. The term merit through an evolution from Old English has come to refer specifically to a reward or punishment which is deserved. Aside from the contentious task of defining which values to elevate, our account of meritocracy must examine not only those who rise under it, but also those who fall and are chastised. The implication arises that, in a meritocracy, the successful deserve their rewards and the destitute their punishment. It will prove difficult, but not impossible for a proponent of meritocracy to show that effort and
talent measured in an imperfect way make someone qualified for a position or reward they enjoy. It will be, even for the staunchest libertarian, a stretch to claim the poor and handicapped earned their place in life and deserve whatever suffering is associated with it. But in a meritocracy, strictly defined, there is no room for good or bad luck, because everything is earned. An affirmative view of the negative effects of a meritocracy results in the “Just World Hypothesis”, defined by psychologist Melvin Lerner as “the need for people to believe that their environment is a just and orderly place where people usually get what they deserve.” The negative social consequences and structural flaws in this theory have been extensively demonstrated by Lerner and others: they make us blind to structural injustices.

Additionally, we often find more than one person to be qualified for a position, and a perfect choice between two qualified candidates presupposes a knowledge of detail no supercomputer aspires to. We can never know someone’s path enough to claim they are deserving of their misfortunes or fortunes. Finally, we are faced with the problem of counterfactual preferences: people, who must be assumed to have agency to exert effort must also have the agency to choose a profession different from the one they would be best at. So there is no guarantee that the person who would make the best Neurosurgeon ever goes down that path, but there is equally no proof someone who doesn’t go down that path did so because of free choice, rather than conditioned circumstance.

Listing the theoretical conditions provides ample evidence that qualifying any system as a complete meritocracy, is a trivially false statement. Should we limit the qualification to those systems in which all power, every position and every element feeding into one of them,
has been acquired by pure merit, we run into contradictions. For one we may never be able to separate the two (what was innate ability, what effort did someone put in, what “unfair” advantages were they given). Only the strictest view demands that equal effort results in equal outcomes. A better case is the one that defines merit as the sum of ability and effort. This conception fixes only a few of the cases listed above: there is space for different allocation based on a difference in abilities (but only those abilities which are naturally different, not the development of those which was exacerbated by better opportunities), and will have to tackle these new criticisms below.

**History**

“The book was a satire meant to be a warning

*(which needless to say has not been heeded)*

*Michael Young, 2001*

The term Meritocracy first appears in 1958 under the pen of Michael Young, coined as a dystopia and meant for governance by the able. “The Rise of the Meritocracy” is a play written to expose a system where those qualities that a society decides to value are pushed by unified grammar schools and national school boards (Young, 1958). It ends up creating a “naturally able” class of rulers, which set themselves apart from the have nots, wrapped in moral high ground of a class that deserves their gains. The piece gives some details on how
this meritocracy is achieved like the replacement of the family’s effect on education by an all powerful schooling system and bureaucratic entry exams.

Youngs 2001 article “Down with the Meritocracy” makes it clear how he feels about the life his word took on after the invention. His case of a misunderstood satirist makes us at least attentive to his predictions that appear to be confirmed, and at best sympathetic to the irony similar to the one that would strike Aldous Huxley waking up in a world where all the politicians he wanted to criticize call for a World State, and began generously using the terms Alpha and Beta on themselves. School boards, an intellectual elite and a society increasingly interested in testing are growing in importance, but they were never fragments of Youngs imagination to begin with. Instead, they were rooted in cases found in human history. As the study below shows, countries aimed to perfect governmental science, sketched out and excavated the ideas underlying them, and flirted with notions of meritocracy long before the advent of Young. Below, we study four examples of governmental and intellectual bases for the term. Each of them is followed by a brief evaluation which helps us reach clarity on an aspect of Meritocracy we can carry into our ad hoc definition.

The first recorded example is that of the Han Dynasty. Much of the stability their legal system enjoyed was a consequence of a specific set of Confucian principles of government. “The ideal of selecting people of both moral character and talent to serve in government has its roots in ancient China. Moral character, or de, symbolizes virtuous personality. Talent,
neng 能 or cai 才, refers primarily, but not exclusively, to a person’s ability in discharging official duties. Persons equipped with both traits are called xian 贤, the worthy.” (Bell and Li).

Entry exams to public positions and the end of hereditary systems led to better management of the immense territory. This system also allowed anyone who passed an examination to become a government officer, a position that would bring wealth and honor to their whole family. It seemed to be the perfect replacement for ancient regimes in Europe where minors ascending to the throne without any qualification gambled with the future of their kingdoms. The defining feature of meritocracy was, initially its ability to serve as a system of governance. “the significance of the civil service in approximating the world’s first political meritocracy in political, social, and intellectual life” Bell writes, helps us find the “complex relation between classical ideals of individual merit and historical processes of education, learning and socialization”. What he touches on is the question of how to operationalize intellectual ideals at a society wide level. Ideals of governance were coupled with conceptions of the self as worthy. The Chinese Confucian bureaucracy figures as a Meritocracy for governance, it takes the liberal view of the definition (since it tests for ability and effort), outcome focused, single point of entry. In its ideological aspirations it was authoritarian and just. It stood as a pioneering system compared to old ones, but needs the reader to accept the philosophical postulates that de is somehow measureable in objective terms or that we can make out xian. In reality, it was a system focused on selecting for cai only.

By contrast, the Indian movement of meritocracy pioneered by Osho was much more focused on its productive qualities. Ideologically, it was more exclusive and therefore closer to
Plato’s idea of the philosopher kings. Only the geniuses should govern, only the able should vote, in a system which is devoid of concern for distributive justice. The possibility for equal chances in such a strict system derives from the ability everyone has to improve upon themselves, and become able. The movement thus views meritocratic realities as precursors or justifiers for Capitalism. “Capitalism is a humanistic system which gives full freedom to all kinds of people, and in all directions of life, to grow and be themselves [...] The death knell of capitalism may turn out to be the death knell of man himself” (Osho in Urban, 2016:56).

Meritocracy as understood under the Osho movement focused on an individual’s’ ability for hard work and rugged individualism. In this regard, it could be likened to Webers’ retracing of the Protestant Ethic and The Spirit of Capitalism. As leftist critics of meritocracy correctly point out, the concept of Osho meritocracy is inextricably linked with that of capitalistic accumulation and competition. Meritocracy in this conception is not focused on ways of achieving good governance. Concerns with governance are relegated as natural outcome of able people competing with each other in a market and political life exists as any other market. It focuses on a lifetime outcome for a society rather than a single hiring decision. The grounds on which someone is said to merit any outcome are not focused on justice or even equal opportunity. It focuses on the liberal view of Meritocracy (concerning both talent and effort). It strongly assumes some sort of equal opportunity (at least the non discrimination view or the premise for self improvement is false)

Merit (Sanskrit: puṇya, Pali: puñña) is represented within a karmic view, figuring as the result of good deeds. The ability to cultivate and transfer merit (understood as desert) is
seen as a force that re establishes right in the universe. An individuals’ merit is attached to them and influences what would be considered luck. Barbara Clayton details the working of the process: “first rakṣā, guarding oneself from attaining unwholesome and harmful qualities and habits; second śuddhi, purifying oneself of such qualities and habits, and finally vardhana, cultivating one’s merit (puṇya) in order to dedicate it to the benefit of others (pariṇāmanā”). Meritocracy in the sanskrit tradition is focused on the individual (rather than society wide). Not detailed is the decision between M as governance or as productive and efficient. It is eerily close to the “Just World Hypothesis”, but does so in a highly individual way. Punya doesn’t make any assumptions about competition or aggression.

A modern conception of meritocracy (after the advent of the term) is found in international organizations like the International Meritocracy Party. Their manifesto detailed in seven points concerning (1) equal chances for every child, (2) the abolishment of party politics, (3) voting limitations based on ability and demonstrated knowledge, (4) a 100% inheritance tax to end elite dynasties and hereditary monarchies, (5) a radically transformed education system based on MTBI personality types, (6) the replacement of free market capitalism with social capitalism and finally (7) the end of nepotism, cronyism, discrimination, privilege and unequal chances. These components of their manifesto can be grouped into three general types. (1), (4) and (5) are general, vague and affirmative notions that detail what should be achieved under a meritocracy. (1) especially, figures as goal and not as clear policy. (2) and (7) are negative conditions and refer to the absence of impediments to (1). (3) and (6) recognize and position meritocracy as incompatible with current neoliberal democracies. The
modern view is concerned with dynamic views of justice (an equal opportunity for every child). It straddles the gap between the outcome and process view, because its detailed demands permeate to voting and education structures. It is concerned with a stricter view of meritocracy than the previous ones.

What we established by tracking ideas and examples of meritocracy is that throughout different countries and civilizations, ideas about individual merit and meritorious government have occupied minds of those working at creating functioning societies. Overall, they are concerned with its efficiency for governance, its relation to individual growth, its reliance on notions of equal opportunity (whether this is seen as non discrimination or level playing field), and its productive qualities. We have also noted that the term has taken on a life of its own, fueled by politicians, and no longer means what its inventor had in mind. This development might be the nail in the coffin of Young’s critics, as a case where life imitates satire. He struck a chord precisely because, at face value, meritocracy is an easily agreed upon idea. Moving forward, we need to both be sensitive to the influence of common conceptions of M (as the fabric of the american dream) and be mindful not to take these ideas as given, as the following dangers and inconsistencies loom.
AIM AND WORKING DEFINITION

A reconstruction

We decide against a categorical rejection of meritocracy as an idea, believing as we do, that the historical success of the term is at the very least a testament to some imagined qualities. Our study of past meritocracies under the watchful eye of its critics will let us build a definition which picks the conception among many we are most justified in using. The operationalised definition lists those attributes we justify as having to be a part of Meritocracy. These attributes can be formalized and integrated into a statistical framework which should allow for future comparisons.

The non trivial critiques

“Their reputation ain’t glowing, reparations ain’t flowing
If you find yourself stuck in a creek, you better start rowing”

A Tribe Called Quest, 2016

The substantive critics of meritocracy fall into different categories of challenges: call them functional, fundamental and epistemological. The first is that, functionally, it is a self-serving myth for the elites who created a way for themselves to hold the moral high ground, feeling that they deserve everything they received by chance. A salient criticism in this vein has been issued by Young himself and posits that: “If Meritocrats believe, as more and more of them are encouraged to, that their advancement comes from their own merits, they can feel they deserve whatever they can get.” With further sophistication, these critics position
meritocracy as a perfect “ideology of Inequality”. Because it is difficult to prove or disprove merit, the myth can be perpetuated. Chris Hayes pinpoints the meritocratic developments since the 1960s as the root of the ruin of current trust between public and elites. The newly created meritocracy class, lost touch with the faceless mass they have managed to rise above, and brought about a “crisis of authority”. These criticisms focus on an attack of meritocracy under current forms of government, and specifically under free market capitalist systems, but do not challenge the idea in its entirety (i.e. they don’t answer whether an ideal meritocracy would be problematic). We could for instance, imagine part of Hayes criticism to be relieved by the proposal in the Meritocracy party to instate a 100% inheritance or to replace Market Capitalism with a Social one.

Another group of critics answers that meritocracy as a concept is inherently harmful or contradictory. The metaphysical reasons given for this include: that it promotes (or presupposes) competition and aggression in all areas of everyday life (formulated by Jo Littler), that it relieves the popular classes of their natural leaders who automatically ascend into the meritocracy (Young, 2001). Littler’s point also circles back into the functional claim, showing that leaders “want to create economic havens for the uber-rich while deepening the marketisation of public welfare systems and extending the logic of competition in everyday life”. As such, our definition of Meritocracy must answer the very realistic accusation that it is a means to reproduce and legitimize social stratification. These criticisms concern lifetime and structural conceptions of meritocracy. They also presuppose that notions of merit are
formed by elites (normative). Incorporating this, our definition will be as modular as possible, talking about levels and processes rather than society wide outcomes.

Finally, the epistemological criticisms, chip at the difficulty any meritocracy will have at successfully identifying the most able or most meritorious, or to “objectively determine what merits merit”. Specifically, intelligence and other entry tests are arbitrary and vary across cultures, and are especially bad at capturing the mental abilities of children from deprived cultural, economical and educational backgrounds. These comments are wide reaching and have initially been addressed in a 1963 study by R.S. Macarthur and W.B. Elley. Others, like Khen Lampert critique the society wide decision to place such a high appraisal on education. Gaining an education is perpetuated under meritocracy because it administers a benefit to the individual but the social and temporal costs on a society are too high for what it really offers, namely a way to signal your superior merit (Lampert, 2012). These criticisms concern single hiring decisions as well as lifetime outcomes. Whether they aim to fulfill standards of good governance or maximize efficiency will determine how the grounds should be established. Our model should be careful about the selection of “objective” measures and consider educational achievement as a marker only when it is formally demanded by an industry.

Salvaging the notion
The criticisms carried out by scholars, are a testament to the complexity of the notion. Since no case of meritocracy has been recorded anywhere (cf. Trivial Critique) our reconstruction answers the question: What use does someone who wants a successful and just system but is not buying into the idea of realized Meritocracy, have for certain aspects of Meritocracy? What would meritocracy be good for?

One of the desirable assumptions is its concern with equal opportunity. “Formal equality of opportunity requires that positions and posts that confer superior advantages should be open to all applicants.” and “Applications are assessed on their merits, and the applicant deemed most qualified according to appropriate criteria is offered the position.” (Richards, 2013) There are two main conceptions of equal opportunity (E.O.): a level playing field view, where circumstantial differences among individuals are leveled out by policies which aim to ensure that everyone with potential is admissible to a pool of candidates for a position; and a non-discrimination view, where the conditions are limited to not being discriminated against based on demography. Roemer for instance, focuses his view on meritocracy on the first conception of E.O., showing that any notions of meritocracy in the absence of a level playing field are moot. Meritocracy can guide an actionable policy choice like education spending. The goal (a good life for all citizens) is achieved through the method: provision of a decent education for everyone. The policy reflecting this is unequal per capita financing, spending proportionally more on those groups who are naturally less able and more disadvantaged.

Good governance under meritocracy is not a moral or ethical consequence: pragmatically, it is an improvement on systems where other decision rules than ability
determine bower. In the most sympathetic formulation, and in the vein that systems like Han Dynasty had of it, Meritocracy replaces nepotistic and hereditary systems of governance. This need not be limited to government in the political sense but includes the management of teams and companies. “The slogan “careers open to talents” expresses the aspiration to establish a world where government posts go to the most qualified and economic opportunities may be seized by anyone independently of whether or not one's parents are of noble blood or cronies of the king.” (Richard, 2013) In this regard, merit based systems will bring about far more efficient outcomes.

The negative composite view of Meritocracy

This paper spent a considerable effort to address critiques and conceptions of Meritocracy, but I hope it has served the purpose of justifying the use of meritocracy we are taking from here on out. An industry and their decisions can be meritocratic, the landscape in a society may favor meritorious ascention during a period, but no absolute meritocracy is ever reached (nor should it). A meritocracy is more than a society where all decisions are made meritocratically because it supposes that someone’s entire lifetime can be traced back to qualify their desert in a position. It also need not apply in the same way to all industries: if someone is hired as a poolboy in a yacht club because he has the right vocabulary, mannerisms and upbringing and this makes them qualified for the job, the hiring decision was based on merit even though others never had the chance to become qualified. The qualifications the yacht club owner is looking for are inherently exclusionary. Abercrombie &
Fitch circumvented laws against physical discrimination for sales clerks by hiring them as “Models who sell clothes”. And the model industry, it is easily agreed upon, need not be blind to physical appearance.

The only use for meritocracy as a social concept is as a future possibility of making admission, hiring, and promotion decisions. The term must, for each industry, be defined negatively: i.e. A meritocratic decision is at the very least one that was not based on race, socioeconomic background or other structurally unfair factors. This can be evaluated in part by looking at descriptive statistics in a process, and observing at each stage how many members of each group drop off. Since simple regressions and descriptive statistics can be misleading, for each industry, the model checks if an industry process is meritocratic given their own assessment of what their goals are. We use it to set the rails so that a future conception of societal compensation based on qualification is possible. Levels of meritocratic decision making for an industry will be measured as the aggregation of not unmeritocratic decisions made at all isolated levels. This process is represented in Figure 3 detailed in the next section. Broadly, the wealth of our negative model is in measuring the weight of all the factors that should not have been of influence in moving from one stage to the next, had the process been meritocratic.

The different notions of desired meritocracy we need to pick from are potential vs. realised ability. Since we evaluate the level of meritocratic decision making at every stage in the process we will consider only realised ability (assuming that if, at the lowest stage, ability is not realised for a significant group, this stands as a strong indicator against a meritocratic
system). Another decision is whether we measure the process or the outcome of a decision. As the tables 1 and 2 below show, at a single hiring or admission decision, the process view is more easily measured. When evaluating the management of a company, we are implicitly measuring the outcome of all the hiring and promotion decisions at the company level.

Let me, at this point, reiterate that we are not claiming our aggregation of meritocratic processes in an industry or of many industries in a country, functions as a stamp of meritocracy in the lives of all citizens who have some sort of involvement. We decide based on what values, some notion of merit or non merit based decisions are made. Since a meritocratic system should be evaluated only by its capacity to select for the values it promotes we can accept that those things considered to signify merit in one system, might not necessarily do so in another. In the medical industry for instance, applicants should presumably be evaluated based on their grades and mental abilities as well as their professional medical experience, and these skills should be possible for anyone to gain. In the military, different qualities (as measured by their internal assessments) are wanted. We leave it up to each industry to select for the values they view as most central to their success.

The tables below give examples of decisions we made when deciding what version of Meritocracy to examine. We choose (1) in the first instance and (3) in the second because they are the only statements we can reasonable approximate with our measurements.
### Single (hiring) decision

<table>
<thead>
<tr>
<th>Process</th>
<th>Buyer</th>
<th>Seller</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Hiring the person who exhibited the highest qualifications at the moment of interview.</td>
<td></td>
<td>(2) Evaluated according to objective and relevant criteria.</td>
</tr>
<tr>
<td>Outcome</td>
<td>(3) Hired the most qualified person.</td>
<td>(4) Received a job I was qualified for (q, more than all other candidates)</td>
</tr>
</tbody>
</table>

### Lifelong process

<table>
<thead>
<tr>
<th>Process</th>
<th>Buyer</th>
<th>Seller</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Consistently hiring and promoting those who bring the most effort.</td>
<td></td>
<td>(2) Given the same opportunities to develop relevant skills and talent as all other applicants.</td>
</tr>
<tr>
<td>Outcome</td>
<td>(3) A company/industry where the most able people hold the highest ranks.</td>
<td>(4) Ended up in a position which matches my talent and effort.</td>
</tr>
</tbody>
</table>
Fig. 3

The elements to the right of each box constitutes variables that should not influence outcome, as we predict it from the input variable.
The complete model includes the level of openness (availability of complete and correct information) of the industry, as well as evaluation of its’ management. The nature of the survey we used lent itself better to looking at workers inside the industry, and since we wanted to reach a countable concept to ensure its falsifiability and to reach new insights from measurement over time. Whatever calculations are beyond the scope of this project can be taken up in later investigations.

OPERATIONALIZING LEVELS OF MERIT IN AN INDUSTRY

The complete four step process

In any given industry, we are considering at least 4 steps and qualify them each by indices of Meritocratic decision making. This method has the advantage that if correctly executed, it will become obvious from the definition, who the responsible actors are and what measures of improvement might make an industry. All these steps only make sense in relation to each other, but they must be analysed step by step, so as not to fall into the aggregation trap.

1. Industry Openness
The first step is the one that confers members of the pool of potentially interested & qualified persons to the group that will be gaining qualifications to be considered. What factors bring down the levels of Meritocracy at this step depends on the industry.

For example, in most societies, the selection of people going to law school already has a very similar socioeconomic make up as the one of lawyers. Presumably, this is because not everyone who wished to become a lawyer had the encouragement and opportunities or even the information to study law. Since the process of a successful career in law is fairly linear, we can locate the break point for meritocratic access at the point 1. Programs like L.E.X. (Montreal after school law program) have identified this as a problem and are trying to counter its effects.

Becoming a professional football player, on the other hand, is a much less linear process, and the group of potentially qualified would include children of all ages, those gaining qualifications would include those regularly and “seriously” practicing. A successful career in sports might be exacerbated later by connections, overall wealth, and demographics (for advertising); but the barriers to gaining skills and qualifications are presumably pretty low.
n=500, Kids aged between 4 and 10

The factors measured here are: The availability of correct and complete information about the industry, The accessibility of Schools or training programs which are considered directly or indirectly necessary to success in the field, The absence of discrimination in selecting those who gain qualifications. The challenges here are: determining the content and make up of the group at large. This would be done by reverse-engineering the “potential number” from the number of those who have been successful, kindergarten homework assignments
Still, a study like the one above justifies our interest in the medical industry because the numbers indicate that at the very least, on some basic attributes, more people have the wish to fill these professions than there are available spots.

2. Gaining Qualifications

The second point is, in an ideal meritocracy, an implicit point, which refers to a smooth progression from the moment of admittance to an institution to the point where qualifications are gained. The medical profession has set formalized points of entry, because no one can become a doctor without graduating from medical school. This implies having graduated from College and in turn having graduated from High School. Some people give up a dream because the internal barriers appears insurmountable. This poses a threat to notions of meritocracy only if the environmental factors behind it punish a certain group disproportionately. If they do, they threaten meritocracy both on fairness and on efficiency grounds since we are losing overall productivity. The ideal input criteria for qualification according to non discriminatory criteria, are the intelligence and ability (measured as latent variables), while the output is successful graduation. Variables that should not be significant are demographics, social capital, and economic background.
3. The Hiring Process

This is perhaps the aspect of an industry which will interest students of merit based systems the most. It was the only point of focus for early bureaucracies like the Han Dynasty, and in modern conceptions, point 1 and 2 serve as accolades, enabling us to say anything worthwhile about the impact of 3. Our framework examines if a person reaches an employment status they have expressed interest in, and not an individual interview or hiring decision.

At this point, in theory, qualified applicants (those successful at the outset of 2) will be evaluated according to criteria which are defined by the experts in said industry. Our model can not capture soft skills or luck factors which make or break an interview at a specific point in time, and because, as noted above an employer sometimes has to decide between two equally qualified candidates, an industry’s Meritocracy Score shouldn’t suffer from an individual failure. We are continuing under the assumption that someone qualified who is not successful at the first try, will attempt a second or third time to reach their desired place in a first interview. What we can quantify, however, is the moving on or dropping off, after a certain time t, of a subset of qualified people. If it falls disproportionately on members of an ethnic or socioeconomic group, this point in the career process is failing meritocratic standards.

The ideal input criteria for selection according to non discriminatory criteria, are the official qualification for a job and the intelligence (measured as a latent variable). Variables that should not be significant are demographics, social capital, and economic background.
Peterson et al. have completed a part of the work for one company and find the same indications as our descriptive statistical analysis. At the hiring point, hiring by gender was only influenced by age and experience, whereas hiring by race was influenced by age, experience and social networks. They propose a reason for this: the referral method is a strong predictor in a successful job interview, and racial groups that have less connections in the workplace are less likely to utilize their social networks to get a job.

4. Promotion, Demotion and Management

Quotas for entry level jobs cannot capture the reality of a career in an industry and the decisions made to promote or fire employees based on performance. Studies about the illusion of meritocratic reviews will be glad to find a method, which like the entropy index can give an idea of the variation in social or demographic make up at higher levels. Finally, surveys about the quality of management and the fair or unfair ascension within a company will feature here.

The input variables for our model are intelligence and job qualification, the output variable is salary. Variables that should not be significant are demographics, social capital, and economic background.

Modeling Assumptions
The first assumption in a reconstruction of meritocratic ideas is some notion of free will. For meritocracy to fulfill its aims of fairness and we must not be using a Leibnizian, deterministic view of the individual. If we take the philosophical position whereby the combination of nature and nurture make up the entire blueprint of an individual’s life, merit is nothing more than your innate (and nurtured) ability. Someone who holds this view might still be interested in Meritocracy’s ability to provide for good governance: if the most able are in places of power simply because they were born more capable, they are not any less able to provide good governance. This limits the meaning of the word earn to a direct exchange for services. Colloquially we have imbibed earning with notions of desert, in expressions such as “Earn your place” “Earn your stripes” “You’ve earned it”. In the absence of some agency by the individual these expressions are tautologies, which don’t enrich our understanding of their choices or conditions. Another way to see this is that the cases in which we speak of desert in the absence of responsibility are not the ones we would like to concern ourselves with.

In that case, meritocracy can functionally be seen as a myth for the elites which keeps all others in place, effectively convinced that they are occupying the place in life that they deserve. If there was no choice left to the individual, and no display of action which can be accounted outside of meritocracy, then a discussion between different political systems seems futile as well since the one that is bound to arise from a given group of individuals will necessarily arise. My line of argument will not pretend to come down on the free will debate but simply espouses the reasoning set forth in three axioms “Why we must have choice”. In separating the inside (choice) and outside (circumstance) of an individual’s life, we may evaluate who is where depending on factors outside of themselves.
The second assumption which provides the linchpin between meritocracy and its defenders on the right is that of a set of objective preferences: We are clearly assuming that individuals are interested in money and high offices. If they are applying for a job, we assume it is because they would like to succeed in getting it. Without this assumption, the solution space for why the same abilities lead to different outcomes, is infinite. Regressing further, we can imagine someone never reached the necessary skills to succeed because they were not interested in success at all. This assumption is harder to defend because limits to rational choice theory have successfully been demonstrated (for instance, Sober & Wilson 1998) and because a natural organizer of society is the capacity for different priorities. It is the critics second point of attack: the self serving assumption of competition and the unfettered desire for upward social mobility. What helps our case, is that we are comparing different industries and looking at meritocracy only within their specified path. We can reasonably assume many doctors have similar career preferences and leave the discussion of industry choice largely beyond the scope of this project.

Two more common assumptions are transitive and constant preferences and perfect information. In a scenario where interest and preferences (or talents) change between the moment of a hiring decision and the lived reality of the job or position a contradiction would arise. Merit is defined as a backward looking concept which looks at how people got to where they are, and not the positions they might or could have wanted to occupy. (Reasonably) perfect information assumes that, people are conscious of their own level of merit, that
interviewers are able to the objective values correctly (though they may be biased, information cannot be missing), but they are also informed about what skills are necessary to access an industry they are interested in

MEDICAL AND MILITARY FEATS

Data Used: The National Longitudinal Survey of Youth

The data used for testing our framework is taken from the National Longitudinal Survey of Youth, specifically from the 1979 sample. This dataset is composed of 12,686 (50% female) respondents born between 1957 and 1964 and interviewed every year since the onset of the survey. The respondent data is extremely granular and covers areas like Educational Background, Attitudes, Family background, Job History. One of the main advantages of this survey for our purposes is that it was designed to over index on disadvantaged groups. It contains a cross sectional sample of 6,111 respondents designed to be representative of the population, and two supplements: a sample of 5,295 civilian Hispanic or Latino, black, and economically disadvantaged nonblack/non-Hispanic respondents. While on the one hand this makes our results about High School dates, it is an old enough dataset to analyze entire careers.

Modeling Specifications
After creating the dataset with demographic, background and performance variables, we need a way to capture latent variables like “Motivation”, or “Social Background” if we want to see how they influence each other and outcomes. We use a method known as Structural Equation Modeling because we are interested in the outcomes of mediating and relevant factors (known henceforth as lagged variables) which cannot be measured directly. Broadly, our model asks: how much influence do your home, your motivation, and your school have on your High School graduation rate.

The SEM model’s strength lies in its ability to combine path analysis (relation among latent variables) with factor analysis (statistical significance of each individual predictor). For High School graduation, we have limited ourselves to 3 main values, to see how they influence each other and the overall likelihood that a student will graduate. We are interested in the Social Capital a student wields, their motivation and the quality of their school. Initially, each of the latent variables was made using three predictors. In the first iteration of this model, the autocorrelations among factors predicting school quality were so high that they decreased the predictive quality of the model without adding much prediction. We picked the strongest one: number of students who drop out by 10th grade, to model School quality.
The path analysis part of the model looks as follows:

\[ \lambda \] corresponds to the factor of regression between the first and second variable.
\[ e \] corresponds to the variances (the error terms) of each individual predictor

A third relation not shown in the graphic is the model’s ability to specify covariance relations among individual predictors

This specification makes it a confirmatory model, meaning the researcher makes some calls about which variables they believe to represent latent variables. I used the lavaan package in R, and specifically the sem function in the package to perform the analysis detailed above. The program itself is responsible for fitting the weights of each predictor and also has the advantage of only running models it believes to be “sensible” (that converge normally, for which standard deviation can be computed and are within range) which provides a check for the researchers own assumptions should they be far off.
The same model is also used in the case of College graduation, and Work Progression. The sample for the college study is all those students who graduated high school. We therefore have access to grade transcripts and a less biased indicator from the AFQT result. For both entrance into the military and medical profession we have sound input data that lets us approximate objective ability.

In both models the actual number attributed to the regression output is not interesting (I have manually indexed means of these variables to 0 or 1 to avoid compromising variance estimations) What matters are the z values, any over 2 indicating we have strong reasons to believe this latent variable is significant in predicting the output variable.

Results

High School

Our justification against using IQ or ASVB measures, which would have been our best predictor of scholastics aptitude is (1) that a scarce 2.34% (141 / 6002) of those who left school between 1979 and 1986 say they did because of bad grades, which would have been our best predictor of aptitude and (2) because the data available is an aptitude test, collected after High School, which is as much about formal knowledge received in school as it is about “natural” aptitude and is skewed highly in favor of those with a diploma. We have also decided to exclude demographic variables, because the descriptive analysis showed low variation for both gender and race. The results below should therefore be interpreted as a student’s ability to succeed in high school purely based on motivational and circumstantial factors.
lavaan (0.5-23.1097) converged normally after 132 iterations

<table>
<thead>
<tr>
<th>Used</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>4198</td>
<td>12686</td>
</tr>
</tbody>
</table>

**Estimator**: ML

**Minimum Function Test Statistic**: 144.370

**Degrees of freedom**: 18

**P-value (Chi-square)**: 0.000

Parameter Estimates:

<table>
<thead>
<tr>
<th>Information</th>
<th>Expected</th>
<th>Standard Errors</th>
<th>Standard</th>
</tr>
</thead>
</table>

Latent Variables:

| school60 =~ | PRCTAGESTUDENT | Estimate | Std.Err | z-value | P(>|z|) | Std.lv | Std.all |
|------------|----------------|----------|---------|---------|---------|--------|---------|
|            | 1.000          | 0.234    | 1.000   |         |         |        |         |

| home60 =~ | FORLANGATHOMED | 1.000 | 0.109 | 0.273 |
|           | POVERTY80      | 0.850 | 0.069 | 12.347 | 0.000 | 0.092 | 0.233 |
|           | HHPARENT1      | -3.263 | 0.336 | -9.722 | 0.000 | -0.354 | -0.953 |
|           | HHPARENT2      | -2.500 | 0.261 | -9.561 | 0.000 | -0.271 | -0.818 |

| desire60 =~ | HGCREXPECTS79 | 1.000 | 0.153 | 0.879 |
|            | HGCRWOULDLIKE7 | 0.807 | 0.018 | 45.844 | 0.000 | 0.124 | 0.802 |
|            | CHANGEINGRADES | 0.763 | 0.030 | 25.388 | 0.000 | 0.117 | 0.741 |
We specify covariances (not detailed in the picture) in each model to avoid overestimation of some effect. Their statistical significance confirms that we were well advised to do so: it is very likely that the highest grade achieved by one parent is closely correlated with that of the second. Similarly, that the academic level of a household influence the school choice and we can imagine someone’s expectations of graduation to adapt to their change in grades.
Who graduates High School, is most strongly predicted by the motivation that someone has to make it through High School. But the conditions at home (the highest grade completed by the parents, the poverty status in 1980, and whether English was spoken) also impact the outcome. All things held equal, it seems that school choice is not a main predictor of graduation rate. But school choice and the conditions at home define what level of motivation a child has to make it through High School. School choice also depends primarily on the social capital of the parents. If a society wanted to increase high school graduation rates to increase industry openness, the strategy with the highest return would not be to create more unified school boards, but rather to invest in motivating children to remain in school and do well, especially those who have a strong likelihood to lose motivation because of outside reasons.

College

In order to analyse the progress influencing college graduation, we fit a second SEM model where, the latent variables have been defined as:

- Scholastic Ability: Grades from high school + The score on the AFQT
- HomeConditions: Highest Grade of Parent 1 + Highest Grade of Parent 2 + Immigrant status of the parents
- Demographics: Sex + Race + Poverty Status
- Graduation from College: A binary variable (yes or no)
Reassuring for an industry like the medical one, which relies heavily on educational achievement, is the fact that demographic factors are not statistically significant in predicting graduation. Once someone has made it past high school, Grades and Intelligence really seem to be the strongest markers of (scholar) success. The social capital someone inherits is significant, at both points in time: determining whether and how well someone graduates from high school and again in whether they graduate from College. Still, The Z value of Scholastic aptitude is much higher than the other two. The high correlation between gender and grades could remain to be investigated, but can be explained by a documented tendency girls have to work harder in high school and the tendency for this difference to level out in college. On the one hand we have gender highly correlated with grades, and on the other, demographics not being statistically significant in predicting success in College. We can
postulate that the effect of gender is stabilized by other differences in ability, since grades are even more highly correlated with ability on the AFQT test. These test results can be interpreted as a statement that a) the effect of social capital doubles down during secondary education b) College acceptance quotas and affirmative action policies do not create a pool of applicants with skewed abilities (since demographics don't influence graduation rates.) College is, by this account, a socially but not economically neutral environment, in which students can thrive equally provided they have moral and intellectual support back home.

First Job

In both cases (medical and military), the data from the National Logitudinal Survey is not ideal for modeling a one point job interview. This is because responses are structured around the first, second and third job held by a respondent in a year, and can not be aggregated for comparisons sake. What we did instead was a descriptive analysis of those who are members of the medical profession starting in 1990 (when the youngest respondents are 25 years of age and can reasonably expected to have started working).

For the medical industry the detail is in the field of study chosen in college. Even though demographics appear not to influence success in College or at the point of entering the profession, there is a substantially higher number of male doctors. A frequency table shows the breakdown of students in Colleges that prepare health professions:
<table>
<thead>
<tr>
<th>Doctors</th>
<th>Support Roles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>54%</td>
<td>17%</td>
</tr>
<tr>
<td>46%</td>
<td>83%</td>
</tr>
<tr>
<td>n =233</td>
<td>n=347</td>
</tr>
</tbody>
</table>

If the outcome is that an equal number of qualified women and men enter the health profession but men end make up the larger proportion of those coming in with qualifications to be doctors, they make up the higher number of doctors in the end. The trailoff for women is occurring after college and before entering professional life. If someone was interested in increasing female representation in the medical industry, they would be advised to look at factors of information and choice, for the subset of students interested in Health careers.

The military career starts here, since it includes only an age requirement, and no diploma. Here too the data is muddled because some people are enlisted, others pass the ASVAB and never join. Because the military has an interest at a low level to enlist as many (qualified) people as possible, scoring an E01 job at the military is not subject to the same constraints as admission to College or High School. Nonetheless, we have found no indications that some decisions are being made on any basis other than advertised.

Medical Career

That Employment data lets us track the careers of someone over 20 years, taking the change in salary as a measure of success. We look at career progression for people in the
healthcare industry: that is how their qualifications and past salary points predict their salary in 2014.

- **Social Capital** = Highest Grade of Parent 1 + Highest Grade of Parent 2 + Immigrant status of the parents + Poverty Status in 1980 + Expectations of reaching career goals

- **Working Environment at Home** = Health + Female figure worked during Childhood (FW) + Male figure worked during Childhood (MW)

- **Qualifications** = Grades from College + Highest Grade completed + The score on the AFQT

- **Work94** = Occupation in 94 + Salary in 94

- **Income** = Salary in 2014

For the subset of doctors:

We created a subset of the work data of all people who are doctors in 2014, and look at the same factors, in predicting their salaries.

```r
fitWork <- sem(Workmodel, data=Docs, std.lv = TRUE)
```
Even 20 years down the line, qualifications are the strongest predictor for salary increase among doctors. It may seem odd that work94 is not significant, especially because this model finds it to be the strongest predictor if ran over the entire population. But this becomes much less problematic, considering we are analyzing a subset of doctors from the same age cohort. This means they most likely had very similar early career trajectories, similar jobs in 1994 and similar salaries associated with it. What our model tries to show is the effect of factors other than Qualifications on a doctor's income. The effect of social capital finally trails off, and the effect of work conditions at home is significant at the 87% confidence level. We can’t entirely reject the statement that health and the working status of parents continue to affect a doctors career.

Because the medical industry is not composed exclusively of doctors and we saw in the admission study that qualifications are skewed, we compare the same model for people who are in the health profession in support roles.
We added the gender variable to “HomeConditions”: because professionals in medical assistance roles have a demonstrated gender effect, we added the demographic variables (Gender, Race) to Home Conditions, to make it capture the entirety of “baggage” that someone carries into a work environment.

| Regression:                     | Estimate | Std.Err | z-value | P(>|z|) |
|--------------------------------|----------|---------|---------|---------|
| quals ~ homeSC                  | -0.024   | 0.009   | -2.496  | 0.013   |
| homeSC ~ homeCon                | -0.043   | 0.019   | -2.209  | 0.027   |
| income ~ homeSC                 | -0.065   | 0.039   | -1.669  | 0.095   |
| homeCon                         | -0.078   | 0.050   | -1.559  | 0.119   |
| quals                           | -0.006   | 0.024   | -0.231  | 0.817   |
| work94                          | 0.028    | 0.047   | 0.603   | 0.546   |

With these values introduced, qualifications are not relevant at all. The strongest indicator (at the 90% confidence level) for salary change is the social capital a person wields, the second is the working conditions at home (at the 87% confidence level). Unsurprisingly, social capital is highly correlated with Home Conditions, making them twin predictors in someone’s success as a health professional.

Concluding over the effects in the medical industry we see a discrepancy between the evaluation and treatment of doctors according to objective criteria and that of other members in the industry. Reasons could include that the high levels of qualification needed to become a doctor create a large set of objective, measurable criteria, by which someone is evaluated at the first hiring decision, and a smaller bool of applicants at each stage. Other health professionals are facing more subjective decision making at each stage, because the selectivity
is lower and less formalized. Both sides of the industry fall prey to the High School graduation effect, which limits industry openness for all.

**Military Career**

For the military industry, there isn’t enough data to make a structural equation model of job progression. Even though the data oversampled on people in the Military, no one seems to stay long enough to provide a modeling of income effects over time. But the sample (n=73) of people still in the military after 6 years of consecutive service allows for linear regressions, which confirm or reject the effect of outside variables.

```
Call:
  lm(formula = MILPAYGRADE94 ~ MLTRYPAY89 + AFQT + RACE + SEX)

Residuals:       Min         1Q     Median         3Q        Max
               -8.9697    -1.2338    -0.3514     0.3619    14.6285

Coefficients:                Estimate  Std. Error t value  Pr(>|t|)
(Intercept)       2.738989    1.184940  2.312    0.022214  *
MLTRYPAY89          0.403664    0.102502  3.938    0.000127  ***
AFQT               0.037402    0.009926  3.768    0.000239  ***
RACE                0.201668    0.346043  0.583    0.560945
SEX               -0.324718    0.686022 -0.473    0.636686
---
Signif. codes:  <   ***   0.001   **   0.01    *   0.05    .   0.1   '   1
```
The military seems to have an entirely meritocratic progression, with a slight significance on social capital (the highest grade completed by the respondents’ father). Our assumption is that there is a high amount of self selection occurring, which determines who wants to go in the military and remain there. The run off happens as different enlistments end and people decide not to re-enlist, so there might have to be new specifications for this industry. The military has also set up its own tests for military aptitude, which is why it acts as
a perfect predictor for future earnings. It stands, by our accounts, as an industry which
succeeds in hiring according to their own criteria.

CONCLUSION

Our framework narrowly missed the capacity of creating a comparative index for all
industries across time. Instead, the construction and testing has allowed us to make three
justified points, one should be keep in mind when speaking about Meritocracy in a practical
sense. The first, detailed in the discussion and consolidated by the High School data, should
serve as a reminder of Youngs warning. No person should call a moral high ground for what
they may reap rightfully, when they are being compared to those who never had an
opportunity to sow. The second, is that elements contributing to a career process are best
analyzed as discrete points: this lets us make more valuable statements than “the coding world
is extremely meritocratic” or “people from poor socioeconomic backgrounds have worse
career prospects” and identify the point where factors of convergence would have the biggest
effect. For the medical industry, this means focusing on equal standards of assessment in
higher and lower qualification careers, and encouraging a more balanced selection of boys
and girls into practitioner programs. Finally, I have provided a justification for using latent
variable models and ratios to model processes rather than performing an outcome analysis in
future research on merit based systems. These analyses are most likely to be flexible and can
be easily extended to a new industry once their desired qualifications are determined.
BIBLIOGRAPHY


