

# Stratification Foundations: Perceptions and Discrimination (DRAFT)

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## Abstract

This paper develops a formal framework for stratification economics that centers the role of identity and hierarchy in shaping economic outcomes. Rather than treating inequality as the result of random shocks or individual choices alone, the framework embeds group-conditioned endowments, identity-augmented preferences, stratified risks, and institutionally biased interactions directly into utility and game-theoretic structures. These features generate persistent inequality as the equilibrium outcome of stratified systems, not as an anomaly to be explained away. The framework also provides a compact parametric representation of the core stratification levers—choice breadth, information quality, constraint tightness, risk exposure, and payoff multipliers—that can be mapped into estimation-ready equations. This bridge connects theory to standard empirical methods (DiD, IV, QTE, field experiments), enabling systematic tests of stratification mechanisms and evaluation of equity-enhancing policies.

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This work also draws on foundational contributions in economics and related fields that inform the study of group-based inequality, including Kenneth J. Arrow, Gary S. Becker, Marianne Bertrand, Eduardo Bonilla-Silva, Michel Foucault, Glenn C. Loury, Karl Marx, Devah Pager, Barbara Reskin, Donald Tomaskovic-Devey, and Max Weber, among others. While these contributions are not always situated within the stratification economics tradition, they provide important conceptual and empirical foundations that this framework engages with, builds on, and in some cases challenges.

A full bibliography will be developed in future drafts.

The author used generative AI as an aid for editing, refinement, and consistency checking. All ideas originate with the author, and any AI-suggested text was carefully reviewed for accuracy and alignment with the author's voice and original text. Final content decisions and any errors remain the sole responsibility of the author.

# 1 Perceptions and Discrimination

Notes 1–3 established how stratification operates through endowments, individual decision-making, and institutional objectives. This note adds a critical layer: how individuals and institutions form perceptions about identity and ability. I formalize how observable signals map into perceived identities and behaviors, and how these perceptions generate both systemic and direct discrimination. This extends the framework by introducing misrecognition and bias as additional channels through which inequality is generated and reinforced.

**Why Discrimination Enters Through the Institutional Problem.** Within this framework, bias, prejudice, stereotypes, and in-group preferences may be held by any individual. However, discrimination becomes economically consequential when actors possess institutionally enabled authority to alter another individual’s opportunity environment. The distinction is therefore not between individuals who do or do not hold prejudicial beliefs, but between actors whose decisions materially affect the economic primitives governing individual behavior. Private prejudice may generate psychic, interpersonal, or social costs, and these effects are already incorporated into the stratified utility framework through identity utility, social penalties, and norm enforcement terms. By contrast, institutional discrimination directly alters the realized opportunity environment:

$$(K_i, I_i, \Lambda_i, P_i, \Pi_i),$$

thereby affecting feasible choices, information access, constraints, risks, and expected returns in ways that systematically shape economic outcomes.

Power structures  $\Upsilon$  determine which agents possess the authority to make decisions with material consequences for others. Institutional agents may be empowered to hire, fire, lend, insure, discipline, surveil, credential, admit, evict, or otherwise allocate opportunities and sanctions across individuals and groups. Consequently, direct discrimination is modeled within the institutional producer maximization problem (PMP), since institutional agents can translate perceptions, stereotypes, and preferences into economically meaningful allocations. In this sense, discrimination is not merely the existence of prejudice, but the interaction between prejudice, perception, and institutionally enabled power. This distinction clarifies why systemic and direct discrimination are introduced through the institutional decision problem rather than solely through private interpersonal interactions.

## Setup

Each individual  $i$  has a **self-identity**  $g_i \in G$ , while others may hold beliefs  $\hat{g}_i \in G$  about  $i$ ’s identity. These beliefs need not coincide with  $i$ ’s self-identified identity. Observable signals  $m_i$  (e.g., name, phenotype, school, neighborhood, or networks) shape these beliefs:

$$\Pr(\hat{g}_i = g \mid m_i) = \sigma_g(m_i; \Upsilon).$$

The power structure  $\Upsilon$  determines which signals are salient and how strongly they map into perceived identities.

*Intuition:* Identity has two sides: how individuals see themselves and how institutions/others classify them. Power structures shape which signals matter, so misrecognition and stereotyping systematically alter opportunities and outcomes.

## Systemic vs. Direct Discrimination

Stratification expands the channels through which discrimination operates from individual-based direct sources to systemic sources of discrimination:

**Systemic Discrimination.** Even when perceptions are unbiased ( $\hat{g}_i = g_i$ ,  $\hat{a}_i = a_i$ ), individuals draw from stratified endowment pools  $\omega_i \sim D_g(\mu = \Omega_g, \Sigma_g)$ , where  $D_g$  first-order stochastically dominates  $D_{g'}$  for dominant relative to subaltern identities. These unequal endowments shape realized ability/behavior  $a_i$  through optimal choices  $x_i^*$ , ensuring that stratification is reproduced independently of prejudice or perceptual errors. In addition, power structures  $\Upsilon$  induce identity-conditioned risks and hierarchy-preserving pressures ( $\mathcal{R}_k(x_k; \Upsilon), \mathcal{P}_k(x_k; \Upsilon)$ ), reinforcing systemic disparities.

This highlights that eliminating direct discrimination alone is insufficient to eliminate inequality when underlying opportunity sets remain stratified.

**Direct Discrimination.** Recall the institutional agent’s  $k$  objective function under stratification:

$$V_k(x_k | \Upsilon, m_i) = \underbrace{\tilde{\pi}(x_k; \hat{a}_i)}_{\text{expected payoff}} - \underbrace{\mathcal{R}_k(x_k; \Upsilon)}_{\text{risk penalty}} - \underbrace{\mathcal{P}_k(x_k; \Upsilon)}_{\text{hierarchy deviation}} + \underbrace{\beta_k(\nu_{\text{in}} \mathbf{1}\{\hat{g}_i = g_k\} + \nu_{\text{out}} \mathbf{1}\{\hat{g}_i \neq g_k\})}_{\text{taste/status term}}.$$

Distortions from prejudice, perception, and classification introduce additional discrimination channels:

- **Taste-based:**  $\beta_k(\nu_{\text{in}}, \nu_{\text{out}}) > 0$  (with  $\nu_{\text{in}} > \nu_{\text{out}}$ ) shifts payoffs toward in-group matches, even when  $\hat{a}_i = a_i$ .
- **Statistical:**  $\hat{a}_i$  is drawn toward group identity averages  $\bar{x}_g$  when signals are noisy, leading to identity-conditioned expectations.
- **Stereotypical:**  $\hat{a}_i$  is distorted toward biased stereotypes  $\tilde{x}_g \neq \bar{x}_g$ , diverging from identity averages.

## Discrimination Interventions

Different intervention types address different channels:

- *Structural interventions* (reparations, redistribution, institutional reform) alter  $\Omega_g$  directly, reducing systemic discrimination.
- *Market/policy interventions* (antidiscrimination enforcement, wage transparency) reduce taste-based discrimination by lowering  $\beta_k$  or equalizing  $\nu_{\text{in}} = \nu_{\text{out}}$ .<sup>1</sup>
- *Information interventions* (better signals  $m_i$ ) reduce statistical discrimination.

<sup>1</sup>Increasing subaltern identity representation among institutional agents who make these decisions are among the proposed policies to improve identity-match preferences or signal precision. This type of intervention would have to be enough to neutralize the hierarchy deviation penalty to sufficiently address group identity inequality. For example, Black police officers do not necessarily treat Black perceived offenders better than white officers, especially if the penalty for not maintaining the status quo within their law enforcement institution is very high.

- *Educational/training interventions* (bias reduction, awareness programs) reduce stereotypical discrimination by shifting  $\hat{a}_i$  away from  $\tilde{x}_g$  and toward  $\bar{x}_g$ , if not  $a_i$ .

## Benchmark (Individualist View)

In the individualist benchmark:

- Endowments  $\Omega_g$  are identical across identities.
- Signals  $m_i$  are identity-neutral and symmetric.
- Discrimination occurs only via direct (individual-based) mechanisms.<sup>2</sup>

In this view, if inequality persists after direct discrimination is eliminated, it is typically attributed to differences in ability, effort, or culture.

### Compact Intuition: Perceptions and Discrimination

**Setup/Inputs:** Signals  $m_i$  map into perceived identities  $\hat{g}_i$  and perceived abilities/behaviors  $\hat{a}_i$ . Under stratification, signals are identity-conditioned and imprecise.

**Choices/Interactions:** Institutions act on perceived, not actual, identity and ability. Misrecognition and prejudice shape expected payoffs and interact with systemic stratification.

**Outcomes/Solution:** Systemic inequality persists even with perfect recognition, since endowments are stratified. Direct discrimination (taste, statistical, stereotypical) introduces additional disparities. Without structural reforms, inequality persists even if direct channels are reduced. Even with improved recognition or reduced direct discrimination, systemic stratification ensures unequal outcomes remain stable.

<sup>2</sup>Systemic discrimination is assumed not to exist or attributed to exogenous variation.

Table 1: Comparing Perspectives on Discrimination: Individualist vs. Structuralist

Dimension	Individualist Perspective	Structuralist Perspective
Power Structures	Identity-neutral optimizers.	Shape signals, prejudices, and stratified payoffs.
Group Identities	Irrelevant beyond direct discrimination channels.	Perceived identity $\hat{g}_i$ and ability $\hat{a}_i$ shaped by signals filtered through $\Upsilon$ .
Endowments/Inputs	Single endowment pool.	Stratified: $\omega_i \sim D_g(\Omega_g)$ , signals systematically biased.
Decision Rules	Maximize identity-neutral expected material returns, possibly distorted by $\beta_k$ .	Maximize stratified returns: $\mathbb{E}[B_k(x_k; \hat{a}_i)] - C_k - \mathcal{R}_k - \mathcal{P}_k + \beta_k(\cdot)$ .
Outcomes	Inequality only from direct discrimination. Remaining inequality after direct discrimination mitigation arises from ability differences or cultural deficiencies.	Inequality persists via interaction between systemic and direct discrimination mechanisms.

### Bringing It Together

This note shows how discrimination operates within the stratification framework. Note 1 established stratified endowments, Note 2 stratified utility, and Note 3 stratified institutional objectives. This note adds a fourth layer: how even when institutions optimize given stratified conditions, perceptions of identity and ability introduce additional distortions in decision-making. Systemic discrimination guarantees inequality persists regardless of recognition accuracy, while direct discrimination interacts, furthering disparities. Thus, stratification produces inequality through endowments, utility, institutional objectives, and perceptions simultaneously. Even when direct discrimination channels are reduced, systemic stratification ensures inequality is reproduced.