



Cracking the Deck: National Origins and Promotions in the Dutch East India Company, 1700-1796

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	<p>those programs were offered and in which they were not. Our analyses of promotions to top-ranked positions on the Company's ships suggest a two-fold conclusion: first, the introduction of leadership training and teamwork incentives reduced the differential weights given to the experience of Dutchmen and non-Dutchmen; and, second, those benefits disappeared when the policies were rescinded after a change in top leadership. The results underscore the opportunities and difficulties that organizations face in implementing durable interventions against inequality.</p>

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3 **Cracking the Deck: National Origins and Promotions in the Dutch**
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6 **East India Company, 1700-1796**
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17 **Filippo Carlo Wezel**

18 USI Lugano (Switzerland)

19 wezelf@usi.ch
20
21

22 **Martin Ruef**

23 Duke University (USA)

24 martin.ruef@duke.edu
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50 Running head: Cracking the Deck
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Abstract

Organizational scholars highlight challenges in reducing inequality within organizations. Due to unanticipated consequences, many programs launched by organizations fail to accomplish these goals. We leverage historical data from the Dutch East India Company to claim that training programs may be an effective tool against inequality when coupled with teamwork incentives and included in broader programs for change. We study the effects of these programs on the unequal promotion rates between Dutchmen and non-Dutchmen across periods of time in which those programs were offered and in which they were not. Our analyses of promotions to top-ranked positions on the Company's ships suggest a two-fold conclusion: first, the introduction of leadership training and teamwork incentives reduced the differential weights given to the experience of Dutchmen and non-Dutchmen; and, second, those benefits disappeared when the policies were rescinded after a change in top leadership. The results underscore the opportunities and difficulties that organizations face in implementing durable interventions against inequality.

Keywords inequality, promotions, and historical analysis

Introduction

While diversity holds important implications for organizational innovation and performance (Williams & O'Reilly 1998), developing and maintaining a diverse workforce is not a simple matter. Experimental and observational evidence has demonstrated that discrimination hinders the careers of various minorities (for reviews see Amis, Munir, Lawrence, Hirsch, McGahan, 2018; Amis, Mair, Munir, 2020). Minority groups face hurdles at different stages of the process, from hiring to socialization to promotion, leading to the reinforcement of inequality within organizations (Baron & Bielby, 1984; Friedman & Laurison, 2019; Tomaskovic-Devey & Avent-Holt, 2019). Similar conclusions may be drawn when we consider discrimination in the careers of female employees (Kalev, Dobbin, Kelly, 2006; Tilcsik, 2021).

Because differential promotions to the higher ranks of organizations represent a fundamental source of inequality, a variety of approaches have been proposed to remedy unequal career opportunities within organizations. From mentoring programs to self-managed teams to flexible scheduling, numerous management practices have been evaluated for their role in addressing inequality (e.g., Dobbin & Kalev, 2022). Despite some initial positive evidence (Elvira & Graham, 2002), subsequent organizational research has emphasized that rules and procedures for disincentivizing discriminatory behaviors often become decoupled from their original function and are used opportunistically by managers (Castilla & Benard, 2010).

The effects triggered by the adoption of formal leadership training for career progression are no exception to this pattern. Few or no reductions in inequality are observed within organizations when leadership training is (a) only targeted at attitudes or skills; or (b) driven by the managerial selection of trainees (Dobbin & Kalev, 2022; Merluzzi & Phillips, 2022). According to these authors, two mechanisms explain these lackluster results. First, developing

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3 relevant skills does not necessarily lead to corrective actions; and, second, leaving the choice of
4 trainees to managers leads to the biased selection of candidates. Because inequality is ingrained in
5 structures, processes, and narratives (Byron & Roscigno, 2019), wider programs of change are
6 needed for formal leadership training to be effective (Dobbin & Kalev, 2018).
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13 Theory and empirical evidence remain scant concerning the effects induced by formal
14 leadership training within broader programs of organizational change. We aim to extend
15 understanding on the effectiveness of training programs by reflecting on how they can be coupled
16 to teamwork incentives to reduce unequal career opportunities. We argue that linking formal and
17 compulsory leadership training with teamwork incentives within organizations holds the potential
18 to address limitations (a) and (b) because it tackles inequality over different stages of the employee
19 experience. While compulsory leadership training shapes employees' mindsets *before* they take
20 on their managerial role and raises the bar of competence for potential promotions to the higher
21 ranks, teamwork incentives reaffirm the message *after* the employees are placed in managerial
22 roles and orient their behaviors to the pursuit of common goals rather than social divides.
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37 Methodologically, we follow the lead of recent authors who have argued for the cross-
38 fertilization of organizational and historical scholarship (see Godfrey, Hassard, O'Connor,
39 Rowlinson, Ruef, 2016), embedding our conceptual development in rich historical evidence. More
40 specifically, we examine the case of the Dutch East India Company (Vereenigde Oostindische
41 Compagnie, henceforth VOC). This historical case provides early evidence of ethnic
42 discrimination due to the privileges the Company accorded to Dutch seafarers, molding their
43 preferential promotion to first officer positions (Bruijn, 2011; Bruijn & Gaastra, 2012; van Gelder,
44 1997). Moreover, it involves a rare organizational attempt at a major strategic transformation in a
45 distant historical time, thereby allowing us to reflect on the organizational and societal sources of
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3 resistance to similar interventions against inequality. In the 1740s, a new Governor-General,
4 Gustaaf van Imhoff, took service and initiated a broad program of change. His ambition was such
5 that “virtually no part of the Company’s organization escaped his notice” (van Eyck van Heslinga,
6 1997: 277). The main goal was to professionalize the culture of the VOC, including a substantive
7 effort at cultivating better naval officers (Herres 1912; Guy, 2012). The initiation of a compulsory
8 leadership training program (the *Académie de Marine*) and the adoption of teamwork incentives
9 (bonuses for speedy voyages) were part of this package. Because these policies were later
10 rescinded, our case allows us to assess whether their effects were absorbed into the Company’s
11 norms of promotion. While abundant research has identified the conditions under which programs
12 may reduce unequal career opportunities (Dobbin & Kalev, 2022), less attention has been
13 dedicated to the consequences of abandoning them when they prove to be effective.
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29 We leverage data on the crews of the Dutch East India Company within a multivariate
30 regression framework to assess the effect of leadership training and teamwork incentives on the
31 difference in top-rank promotions between Dutch and non-Dutch seafarers. While the data remain
32 silent about individual-level information on training and bonuses, our tests reveal average
33 differences in promotion rates across Dutchmen and non-Dutchmen over periods in which those
34 incentives were offered or not. The results of our analyses show that non-Dutch seafarers exhibited
35 lower promotion rates in the VOC throughout the eighteenth century. Yet differential returns to
36 experience between Dutchmen and non-Dutchmen were reduced during the time when the
37 company implemented leadership training programs and teamwork incentives. Additional analyses
38 reveal that most of the benefits of those policies evaporated following their removal.
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53 These results suggest three general conclusions. First, they illustrate that training programs
54 may be unsuccessful when they are not integrated into a more systemic approach to inequality. As
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3 our historical case shows, coupling training programs with teamwork incentives helps reduce
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5 discrimination by targeting not only the attitudes but also the behaviors of top managers: while
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7 compulsory leadership training avoids discretionary choices, teamwork incentives channel the
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9 behaviors of managers towards the pursuit of a common goal. Second, in the absence of
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11 accountability, the joint effect of those policies only generates a time-bound effect, rather than an
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13 enduring reduction in discrimination. Third, because it is situated in a different historical era, our
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15 paper provides rare evidence of the multifold challenges that organizations face when attempting
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17 to eradicate inequality. In the concluding section, we discuss the scope conditions of our arguments
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19 and the contributions of our work to the literature on organizational inequality and diversity.
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26 **Perspectives on discrimination**

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29 Unequal career opportunities within organizations are triggered by discrimination. Whether it is
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31 deliberative (i.e., statistical discrimination, see Arrow, 1973) or reactive (an *a priori* judgment
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33 based on status, Correll & Ridgeway, 2003), discrimination implies that “one group excludes,
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35 intentionally or not, another categorically distinct group from accessing some organizational
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37 resources” (Tomaskovic-Devey & Avent-Holt, 2019, p. 135). With respect to promotions to
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39 management, a recent review of the literature by Amis and colleagues (2020) confirms that unequal
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41 opportunities across social groups are rooted in differential access to informal networks, mentors,
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43 and socialization within organizations. These processes tend to activate double standards of
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45 evaluation (Foschi, 2000).
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51 In line with Weberian reasoning, many of the early efforts at reducing discrimination have
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53 been inspired by the idea that replacing particularism with “abstractions such as bureaucratic
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55 rationality, interchangeable hierarchical positions, and meritocracy” (Weber [1978] as cited in Ray
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3 [2019, p. 29]) causes favoritism and biases to recede. Initial evidence by Reskin and McBrier
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5 (2000), for instance, showed that more formalized personnel practices led to a greater proportion
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7 of minorities in the top ranks. Similarly, Elvira and Graham (2002) provided evidence that the
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9 adoption of pay systems increased gender equality.
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13 Subsequent research, however, has painted a gloomier picture and pointed to various biases
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15 responsible for discrimination, often intertwined with a rhetoric of economic rationality (Tilcsik,
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17 2021). Because these preconceptions are rooted within the larger society, symbolic compliance
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19 may ensue (Ely & Thomas, 2001; on cross-cultural differences see, e.g., Greckhamer, 2011). For
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21 instance, experimental evidence by Castilla and Benard (2010) showed that when organizations
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23 claimed ‘meritocracy’ to be one of their core values, gender discrimination in promotions did not
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25 recede. Only the establishment of organizational accountability through a dedicated task force
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27 allowed a fair distribution of rewards (Castilla, 2015).
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32 Another stream of the literature has begun to assess the potential benefits of training
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34 managers regarding their unconscious biases. Many of the findings on this matter have pointed to
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36 the limited impact of management training (Paluck & Green, 2009; Dobbin & Kalev, 2022).
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38 Training programs tend to fail, especially when they solely target the attitudes of managers rather
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40 than their behaviors (Kalev et al., 2006). In fact, the link between attitudes and behaviors is often
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42 more tenuous than expected. An effective program of change should target both the attitudes and
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44 the behaviors of employees, for instance, by offering formal training jointly with complementary
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46 measures directed at incentivizing positive behaviors (Dobbin & Kalev, 2018) and, ideally,
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48 representative of a wider program of change (Dobbin & Kalev, 2022). Regrettably, the evidence
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50 on such programs is limited, as is our understanding of complementary measures that may be
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52 effective in offering more balanced career opportunities within organizations.
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3 A historical case study like the VOC contributes to the discussion by providing rare
4 evidence from a large-scale program of transformation directed at improving the quality and
5 professionalism of the Company's naval officers and the operational efficiency of its shipments.
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7 In particular, we will examine how the introduction of a leadership training program and incentives
8 for teamwork may have reduced the privileges that Dutchmen held within the organization. In
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10 developing our arguments, we follow the lead of other scholars who have highlighted the
11 advantage of strengthening conceptual rigor by relying on historical evidence (for a review see
12 Godfrey et al., 2016). To this aim, we start by providing a brief history of the VOC and elaborate
13 on the divide between Dutchmen and non-Dutchmen. After that, we anchor our theory
14 development to the evolution of the company.
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29 **The VOC and the management of its workforce**

30 *A brief historical overview of the VOC*

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34 The Dutch East India Company (Vereenigde Oostindische Compagnie) was founded as a single
35 company in 1602 and blossomed thanks to a monopoly granted by the Dutch government on the
36 spice trade (Gaastra, 2003). The commercial efforts of the company centered on spices, but later
37 expanded to textiles from India, coffee from Java, and tea from China. The VOC seized those
38 opportunities through its strongholds in Ambon, Banda, the Moluccas, Coromandel, Ceylon,
39 Malacca, the Cape of Good Hope, Java, and Makassar. Batavia (i.e., modern-day Jakarta) was the
40 central hub and source of coordination across ports (Gaastra & Bruijn, 1993).
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51 Issuing shares was fundamental to finance the commercial activities of the Company and
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3 monopoly on trade, and the entrepreneurial spirit of its workforce, the VOC became the most
4 powerful transnational company in the world. As we explain below, a significant rethinking of the
5 VOC's internal organization took place in the middle of the eighteenth century. Nevertheless, those
6 changes did not suffice to meet the enormous financial costs and new customer preferences that
7 emerged at the time. The Fourth Anglo-Dutch war (1780-1784) compromised the already weak
8 financial situation of the company (Gaastra, 2003). The French Revolution and its subsequent
9 developments led to the occupation of Amsterdam. The VOC was nationalized in 1795, ending
10 two centuries of evolution in this remarkable organization (Gaastra, 2003).
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22 *The VOC workforce and the divide between Dutchmen and non-Dutchmen*

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25 Until the first decades of the eighteenth century, the company attracted its workforce primarily
26 from the communities surrounding its six chambers, i.e., sites in the Netherlands that coordinated
27 its seafaring operations (Bruijn 2011). Nonetheless, the VOC progressively expanded the reach of
28 its labor market to the German states, Scandinavia, England, France, and central Europe (van
29 Lottum, Lucassen, van Voss, 2011). As a result, national diversity in the VOC increased
30 substantially during this era (Sgourev & van Lent, 2017; van Lottum et al., 2011).
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40 The promotion to first officer represented a critical decision for VOC administrators. First
41 officers were responsible for the well-ordered governance of the ships (for a similar claim
42 regarding the British navy, see Pfaff & Hechter, 2020). The careers of non-Dutchmen within the
43 higher ranks of the VOC were nevertheless fraught with uncertainty (van Gelder, 1997). The divide
44 between the career opportunities of Dutchmen and non-Dutchmen was profound by the early
45 eighteenth century: up to 92 percent of ship's officers and 76 percent of non-commissioned officers
46 originated from the Netherlands (a much larger percentage than in the total labor force).
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3 considerations, first and foremost colonial ones, explain why the percentage of non-Dutchmen was
4 higher at lower ranks (van Gelder, 1997). The main reason for this trend resided in the fact that
5 Dutch officers and administrators questioned the competence and loyalty of non-Dutchmen (van
6 Lottum & Zande, 2012). Cultural and religious differences sustained a distinct Dutch advantage in
7 evaluations for promotion (Lucassen, 2004). The only way for non-Dutch seafarers to overcome
8 this disadvantage was to be integrated into the network of personal acquaintanceship and
9 exchanges via sponsorship by one of the VOC managers (Bruijn, 2011).

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20 A different picture emerges around the second half of the eighteenth century. Van Lottum
21 and his colleagues (2011) report that the percentage of the VOC workforce who were not Dutch
22 grew from less than 30 to about 50 percent between the first and second halves of the century.
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27 Around 1750, the top ranks were “open to foreign seamen as well ... both Dutchmen and foreigners
28 qualified for promotion [and] foreigners were not rated inferior” (Bruijn & Gaastra, 2012, p. 217).
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Soon afterwards, “the percentage of Dutch officers had fallen to 75, while the number of foreigners
on the higher posts had risen to 22.8 percent” (van Gelder 1997, p. 58).

What happened in between? To some extent, technical demands catalyzed the expansion
of non-Dutchmen in the VOC’s labor force. New organizational changes were also introduced in
the 1740s. Many of these changes represented a push in the direction of professionalism. The
driving force behind them was the top colonial administrator, Gustaaf van Imhoff, who was
convinced that a major problem within the VOC “was that the officers were not very capable” (van
Oosten 1969, p. 248). Importantly, for our reasoning and analytical strategy, several initiatives
promoted by van Imhoff were revoked in 1755, a few years after his death (Bruijn, 2011).

Promotions of Dutchmen and non-Dutchmen within the VOC

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3 Before introducing our theory, it is important to highlight that while a few historians have argued
4 that promotions to the top ranks at the VOC varied across Dutchmen and non-Dutchmen, their
5 conclusions were derived primarily from qualitative recollections of individual careers (e.g.,
6 Bruijn & Gaastra, 2012). Little is known about the systematic effect induced by the policies
7 introduced by van Imhoff in reducing the gap in promotions between Dutchmen and others.
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12 We address this limitation in two ways. First, we advance a novel set of predictions aimed
13 at identifying individual – rather than aggregate – differences in the chances of promotion to first-
14 officer positions across Dutchmen and non-Dutchmen. Second, we ground our theorizing in double
15 standards of evaluation and relate their existence to the differential returns to experience witnessed
16 by members of those two groups. Our distinctive organizational perspective leads us to argue that
17 while differential returns existed in the early decades of the eighteenth century (1700-1741), they
18 diminished during times when formal leadership training programs and incentives for teamwork
19 were introduced (1742-1755). Given that the consequences induced by revoking the policies could
20 be either positive (i.e., entrenchment of equality norms) or negative (i.e., regressing back to the
21 status quo), we advance no formal hypothesis regarding the differential returns to experience
22 between Dutchmen and non-Dutchmen during the last era of the VOC's existence (1756-1796).
23 Rather, we explore the effects of removing those incentives through ex-post analyses.¹
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44 *Differences in promotions before leadership training and teamwork incentives*

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46 Organizations without formal rules for training and promotion are open to personal influence
47 (McDonnell, 2017). In such organizations, the mechanism of social closure is likely to be activated
48 and expectations of competence are informed by discriminatory representations of out-groups. As
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56 ¹ The definition of these periods aligns with the historical accounts of Israel (1989) and Bruijn (2011).
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3 a result, ethnic differences inform promotion decisions and double standards of evaluation are
4 enforced across the socially constructed social groups (Toschi 2000). In particular, promotions to
5 top ranks are exposed to unequal opportunities because those decisions represent claims of status
6 and power in organizational relationships (Tomaskovic-Devey & Avent-Holt, 2019).
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13 During the eighteenth century, the search for officers (i.e., masters, mates, and petty
14 officers) at the VOC was advertised on billboards that detailed available positions (Bruijn, 2011).
15 Applicants were required to present their qualifications in person during a subsequent meeting. As
16 Bruijn and Gaastra (2012, p. 219) note, “at first glance, the system seems to have been very open
17 and above board ... indeed, a number of candidates were allowed the opportunity to offer their
18 services.” To bypass the formal prohibition on selling offices, however, the directors took turns
19 appointing masters. Provided that a candidate had passed their exam and was judged ‘competent’,
20 the selected director appointed their favored candidate. Substantial financial benefits accrued to
21 “the director who commissioned [an officer]” (Bruijn & Gaastra 2012, p. 220) or through an
22 intermediary (Bruijn, 2011).² The appointment of the master in turn shaped the choice of other
23 first officers (i.e., the mates) via the master’s personal network (van Rossum, 2013).
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39 Geographical origins played a fundamental role in the selling of those positions, as being
40 Dutch was perceived by the directors as a reassuring signal of loyalty and competence. Dutch
41 *protégés* moreover represented a safe investment for directors with respect to the returns they could
42 seize from private trade (Bruijn, 2011). While diversity considerations were not necessarily on the
43 top of their minds, the administrators’ preference for Dutchmen undoubtedly complicated the
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53 ² Selection was not negligible. For instance, during the years 1725-1765, 324 applications were recorded at the
54 Enkhuizen chamber and 236 were turned down. A detailed description of the process is contained in Bruijn (2011:
55 Chapter 9).
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3 career progression of non-Dutchmen within the VOC. With patronage deeply rooted in local
4 communities, non-Dutchmen became increasingly frustrated and convinced that “the whole
5 system of recommendations and patronage led to a situation in which ... the promotion went to
6 the personal favorite rather than to most skilled person” (Bruijn & Gaastra, 2012, p 228).
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13 A plausible indication of the far-from-meritocratic promotion evaluations can be traced to
14 the doubtful quality of Dutch VOC officers during the early decades of the eighteenth century. For
15 instance, as a Dordrecht minister noted, many of the dangers of his trip to Asia in 1714 arose “from
16 the carelessness and ignorance of the mates” (van Gelder, 1997 p. 48). Similar complaints about
17 Dutch officers were far from rare (van Oosten, 1969). These problems may be attributed to unequal
18 standards of evaluation in the hiring of the master and, in turn, of the second and third mates. As
19 experience at the VOC was the key metric of the quality of a seafarer (Bruijn, 2011), we expect to
20 observe substantial differences between Dutchmen and non-Dutchmen in their returns to
21 experience. More specifically we posit that, when considering their chances of promotion to first
22 officer, Dutchmen benefitted from superior returns to experience compared to non-Dutchmen. This
23 reasoning leads us to hypothesize:
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39 Hypothesis 1: Before the adoption of leadership training and teamwork incentives at the VOC,
40 non-Dutchmen seeking promotion to the top ranks faced a discount in their returns to
41 experience compared with Dutchmen.
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46 *Differences in promotions after leadership training and teamwork incentives*

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49 When jointly adopted, leadership training programs and teamwork incentives may disrupt the self-
50 reinforcing dynamics of career inequality. These interventions have the advantage of tackling the
51 problem over different stages of experience among workers within the organization, thereby
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3 sending a consistent message to the employees of the organization. Compulsory leadership training
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5 allows previously discriminated groups to invest in the development of requisite attitudes and
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7 competencies *before* undertaking the role (Ely & Feldberg, 2016). Teamwork incentives allow
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9 managers to be animated by a common goal, rather than job-irrelevant social identities, *after* they
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11 have assumed their formal roles. In combination, the two policies have the potential to challenge
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13 the existence of double standards of evaluation.
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17 The VOC's system of patronage, in van Imhoff's mind, slackened "the devotion to duty of
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19 her servants" (van Oosten, 1969, p. 248). To cure this widespread disease, he elevated the role of
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21 training and teamwork. First, new training schools were founded, both in Batavia (the *Académie*
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23 *de Marine* was created in 1743) and in the Netherlands (*Zeemanscolleges*, established in
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25 Rotterdam in 1749). The provision of formal, compulsory training for officers represented a shift
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27 for the Company, since there had been no centralized training within the VOC before, but rather
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29 the belief that "men would gain adequate seamanship and experience over the course of the risky
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31 long-distance voyages" (Schotte 2014, p. 121). In van Imhoff's vision, the scientific and physical
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33 development of officers of the highest class was necessary in preparation of their practical service
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35 (Herres, 1912). To emphasize the importance of formal leadership training, van Imhoff proposed
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37 that a minimum number of years in the lower ranks was needed before promotion to higher levels
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39 occurred (Herres, 1912; van Oosten, 1969). Second, van Imhoff also leveraged financial incentives
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41 to professionalize the behavior of officers and promote teamwork onboard. As of 1744, the
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43 incentives were such that "if a ship arrived in the East within five and a half months, her officers
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3 would expect a bonus of *f.* 1,200. Within six months the sum was *f.* 900. ... By the end of 1747,
4 twenty-two ships had claimed one of these bonuses” (Bruijn 2011, p. 190).³
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8 Did these changes affect unequal promotions of Dutchmen and non-Dutchmen within the
9 VOC? While they were directed at professionalizing the jobs of first officers, we believe that they
10 also served to decouple perceptions of competence from ethnic origins in promotion decisions.⁴
11 Note that our claim does not imply that the practice of bribery disappeared and that its
12 administrators became unbiased. To the contrary, the directors continued to obtain private rents.
13 Nonetheless, the provision of formal and compulsory training raised the bar of competence among
14 applicants to the top ranks. Moreover, as the appointment of the master shaped the choice of his
15 mates, the financial incentives made the master more sensitive to the potential rewards at stake
16 than to the ethnic origins of the candidates. Under these conditions, we expect to observe more
17 equitable returns to experience between Dutchmen and non-Dutchmen and the weakening of
18 double standards of evaluation in promotions to first officer. Thus, we hypothesize:
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34 Hypothesis 2: The adoption of leadership training and teamwork incentives at the VOC promoted
35 similar returns to experience between non-Dutchmen and Dutchmen seeking promotion to
36 the top ranks.
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44 **Data, Measures and Method**

45 *Overview*

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52 ³ According to <https://www.historicalstatistics.org/Currencyconverter.html> 1,200 Dutch guilders in the year 1743
53 could buy roughly 676 grams of gold. The price of 676 grams of gold in 2023 is approximately 37 thousand euros.

54 ⁴ A further move towards professionalization was made by adopting new officers' job titles (i.e., captains,
55 lieutenants, and cadets, instead of commanders and mates) -- see van Oosten (1969).
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3 Our theory development has relied on a combination of organizational and historical analysis (e.g.,
4 Maclean Harvey, Clegg, 2016; Vaara & Lamberg, 2016). The use of rich historical evidence allows
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6 us to anchor our theoretical arguments in specific processes and events that, in turn, reflect our
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8 understanding of the conditions under which the provision of training within organizations may be
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10 effective in reducing unequal career opportunities. To fully balance theoretical and empirical
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12 concerns, nonetheless, counterfactual evidence is needed. While one common solution to this
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14 problem is to leverage a comparative historical analysis (i.e., a comparison of historical outcomes
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16 to elucidate underlying patterns, as argued by Vaara & Lamberg, 2016), we aim to address this
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18 issue by relying on longitudinal multivariate regression analyses. This approach helps us to verify
19
20 the credibility of our qualitative insights by ruling out concurrent processes and potential
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22 alternative explanations (for a similar approach, see Phillips, 2013).
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28 29 *Data*

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32 To test our hypotheses within a regression framework, we leverage data on VOC sea-voyagers
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34 compiled by the Dutch National Archives (Nationaal Archief, 2008). This database provides
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36 information on almost every ship and seafarer involved in outbound voyages to Asia during the
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38 period 1700-1796 (see Bruijn, Gaastra, Schöffers, 1987). The data were compiled from logbooks –
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40 which provide information about each voyage, including the year and exact date of departure and
41
42 arrival – and from the ships' pay-registers – which report information about individual seafarers.
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44 About 95 percent of the pay-registers have been preserved (Bruijn 2011). After limiting the data
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46 to seafarers who engaged in more than one trip to Asia and excluding those already holding the
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48 rank of first officers during the previous voyage, our final database includes 23,601 individuals at
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50 risk of promotion from mid-rank to first officer.
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54 55 *Measures*

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3 *Dependent variable.* The dependent variable in our study is a binary indicator that identifies cases
4 of *promotion* to the top ranks. In the main analyses, we include any type of career in the risk set
5 (e.g., medical, naval, military) and measure the individual chances of promotion to the top of the
6 career-specific hierarchy. To isolate unobserved and time-invariant characteristics across careers,
7 we included dummy variables for the most common career paths (i.e., naval and military).
8 However, as most seafarers pursued a naval career, our robustness checks include estimates
9 obtained by restricting the sample to the promotion of seamen.

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20 *Independent variables.* For the main independent variables, we coded the focal seafarer as
21 a non-Dutchman (*non-Dutch seafarer*) when the city from which he originated was not located in
22 the Netherlands (i.e., in Germany, Scandinavia, France, England, or any other state).⁵ The
23 interaction between *non-Dutch seafarer* and *number of trips* (i.e., a variable that counts the number
24 of previous trips to Asia for the focal seafarer) is employed to assess the differential effect of
25 experience in promotion chances across Dutchmen and non-Dutchmen, both within (1700-1741)
26 and outside (1742-1755) the period during which leadership training and teamwork incentives
27 were adopted (H1, H2). As mentioned before, we present exploratory analyses concerning the
28 differential chances of promotion between non-Dutchmen and Dutchmen in the last era, during
29 which a retreat from van Imhoff's reforms was observed (i.e., from 1756-1796). We also test the
30 robustness of the main results (a) when removing this last period from the sample; and (b) focusing
31 solely on its own patterns of promotion.

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⁵ We refer to states rather than countries to recognize the inherent ambiguities of geopolitical boundaries during the period under study and the fact that some proto-national entities were little more than collections of states. The key divide in our coding remains between Dutchmen and non-Dutchmen. That categorical divide was also reinforced by the successes of the VOC. Thanks to the company, the Dutch started to share “collective memories that bound them together in an ‘imagined community,’ a community born of a new state structure which became a novel focus of allegiance for its citizens” (Lunsford 2005, p. 72-74; also Anderson 2004).

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Individual level controls. To proxy for variation in past performance, we control for the duration of the previous voyage to Asia on which the focal seafarer travelled (*performance of previous voyage*). The seafarers who originated from the same city as the chamber that organized the current voyage were identified to capture their more intense socialization and better career opportunities with the VOC (*from same city as chamber*). Promotion opportunities varied across career tracks, in particular *seamen* and *soldiers* were distinct from other careers (e.g., specialists). We coded a dichotomous variable for seafarers who held a letter of debt (*debenture*) granted to third parties. We also identified instances in which the focal seafarer signed a *monthly certificate* that transferred a portion of their earnings to family members. These two variables capture individual characteristics related to higher or lower risk propensities. Holders of debentures tended to owe money to ‘soul buyers’, while those who held monthly certificates tended to be married.

Ship level controls. Promotion was decided at the time of departure of a new voyage to Asia and tied to a specific voyage. We recognize that several characteristics of the voyage itself played a role in the chances of promotion. Top officers played a key role in deciding promotions. Because they varied in experience, we counted the number of trips to Asia made by each ship’s master (*master’s experience*). We proxied the type of voyage and quality of the crew by measuring the overall level of workforce experience. To this end, we summed the individual number of trips of the crewmembers and divided the result by the number of crewmembers (*average experience of crew*). Crew size varied across voyages (*number of seafarers on board*). To control for social bonds and their role in promotions, we also counted the number of seafarers originating from the same city as the focal seafarer on the same ship (*number of seafarers from same city*). Journeys in which military regiments were involved were organized for a different purpose, so we identified those few instances with a dummy variable (*regiment on board*).

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3 *Additional controls.* Because hiring and promotion opportunities varied across small and
4 large chambers, two dummy variables were created to isolate the difference between the
5
6 *Amsterdam and Zeeland* chambers versus *Rotterdam, Delft, Hoorn, and Enkhuizen*. To proxy the
7
8 familiarity of the VOC with the management of non-Dutch officers, we also added a variable that
9
10 counted the *cumulative number of non-Dutch officers* until the focal year. To proxy variations in
11
12 the opportunities linked to variations in the wider economic environment, we employed data
13
14 collected from Allen (2007) about the price of pepper and tea, two of the most important goods
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16 traded by the VOC (*price of pepper* and *price of tea*). With a similar goal in mind, the decade-by-
17
18 decade value (in thousands of guilders) of bills of exchange paid out in the Netherlands to seafarers
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20 (*bills of exchange*) was obtained from Bruijn, Gaastra, and Schöffner (1979). Voyages involving
21
22 Batavia (the vast majority) and Ceylon as the destination were flagged with dummy variables.
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24 Finally, to isolate the potential effect of wars, we added dummies for the War of the Spanish
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26 Succession (1702-1713), the War of the Austrian Succession (1747-1748), the Seven Years War
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28 (1756-1763), and the Fourth Anglo-Dutch War (1780-1784), all coded from Boxer (1965). Table
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30 1 reports the means and correlations among the variables included in our models.
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Insert Table 1 about here

47 **Estimation**

48 The relative rarity of promotions (about 5.5% of observations), coupled with the need to rule out
49 unobserved time-invariant differences among seafarers, creates some challenges for the estimation
50 of our models. Recent work has demonstrated that the linear probability model (LPM) with fixed
51 effects provides the most suitable alternative under those conditions (Timoneda, 2021).
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3 Three concerns could be raised regarding the use of about LPMs for binary outcomes:
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5 heteroskedasticity, predictions outside the [0,1] range, and the imposition of an improper
6
7 functional form on the data. We address heteroskedasticity by applying robust estimation of the
8
9 standard errors. For our data, predicted probabilities falling outside the [0, 1] range only appear
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11 under certain conditions and are largely cosmetic as a result. To address the linearity assumption,
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13 we also present the estimates of a matching model obtained from complementary log-log
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15 regression (see robustness checks for more details).
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22 **Results**

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24 Table 2 presents the mean value of our dependent variable by ethnic group and across time periods
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26 (i.e., before, during, and after the implementation of training requirements and teamwork
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28 incentives). Two patterns are worth highlighting: first the difference (delta) in promotion rates
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30 across groups is reduced after the implementation of the changes; and, second, while the difference
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32 in promotion rates across the two groups increased with experience in the absence of training and
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34 incentives to teamwork, it declined after removing them (experience values in Table 2 represent
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36 mean \pm 1 std. dev.). Table 3 presents the linear probability models with errors clustered at the
37
38 seafarer level and data treated as repeated cross-sections. Estimating the LPMs, we observe that
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40 non-Dutch seafarers, on average, faced a lower probability of promotion than Dutchmen and that
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42 this difference decreased in the era in which training and teamwork incentives were introduced.
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50 Insert Tables 2 and 3 about here
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3 After this initial evidence, we move to more conservative econometric specifications. In
4 particular, Table 4 reports the estimates of the LPMs with individual-level fixed effects, predicting
5 promotions to the top ranks of the VOC during the period 1700-1796. These models are used to
6 test our hypotheses. Table 5 reports the models used to validate the effect of the policy changes.
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8 Table 6 presents several robustness checks, including matching and selection models.
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17 Insert Table 4 about here
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21 Model 1 of Table 4 displays the baseline estimates of control variables. The coefficient for
22 the *number of trips* variable suggests the existence of positive returns from experience in our data.
23 The chances of promotion increase on average by about 2% for every additional trip made to Asia.
24 The *previous performance* variable points to the positive effects of recent performance on
25 promotion. A similar increase is observed among the holders of *monthly certificates* – mostly
26 married men, who were arguably more reliable in the eyes of VOC managers. Conversely, the
27 negative coefficient of the *mean VOC experience of the crew* suggests a competitive effect of the
28 average level of crew experience on promotion.
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40 Model 2 investigates the existence of differential returns to experience between Dutchmen
41 and non-Dutchmen. According to these estimates, Dutch seafarers exhibited an 11% probability
42 of promotion after five trips, while non-Dutchmen had to venture on ten voyages to reach the same
43 chances of promotion. Model 3 further investigates whether this difference across groups varied
44 after the adoption of leadership training and teamwork incentives. The estimates suggest that while
45 there was a significant discount to experience for non-Dutchmen in other eras (in 1700-1741 and
46 1756-1796), this difference was reduced in the era in which leadership training programs and
47 teamwork incentives were introduced (1742-1755).
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3 A full test of our hypotheses involves two additional steps. First, among non-Dutchmen,
4 we expect a statistically significant difference between the slope for the number of trips after the
5 era of social closure than during it. Following Mitchell (2021), the contrast command available in
6 Stata was used to test differences in slopes. We find support for this claim ($\beta=0.173$, $p<0.05$).
7
8 Second, we expect a statistical difference between non-Dutchmen and Dutchmen in the slope of
9 the number of trips coefficient during the era before the introduction of the new practices but not
10 after it. We find support for the former ($F=12.08$, $p<0.01$) and the latter expectation ($F=0.04$,
11 $p=0.84$). These results align with hypotheses H1 and H2.
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22 Model 4 checks the robustness of these conclusions when excluding the last era (i.e., the
23 observations after 1755 are not used in the estimation). No substantial differences are observed in
24 this restricted sample in comparison to the earlier results.⁶ Conversely, Model 5 focuses solely on
25 the sample concerning the last era (1756-1795). The estimates again confirm the re-emergence of
26 a discount to the experience of non-Dutchmen during the final era. Model 6 again limits the sample
27 to the years preceding 1756 and confines it only to seamen, therefore excluding the seafarers
28 involved in other careers. Once again, the estimates of this model specification proved to be
29 qualitatively similar to the main ones. Figure 1 offers a graphical representation of the returns from
30 experience in the promotion of Dutchmen and non-Dutchmen before and after the introduction of
31 the new policies (values obtained from the estimates reported in Table 4, Model 3; similar
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52 ⁶ Historical evidence confirms that the Dutch managers still favored Dutch officers after the implementation of the
53 policies. A possible example of the re-emergence of old practices is provided by Gaastra (2009), regarding the
54 appointment of junior merchants (one of the officers onboard), which was made a requirement in 1771 on board the
55 larger ships sent to Asia. Nevertheless, the percentage of non-Dutchmen involved suggests that Dutch “directors often
56 awarded this privileged position to fellow townsmen” (Gaastra, 2009, p. 112).
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3 conclusions hold when using estimates from Model 6).⁷ This figure further corroborates our
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5 interpretation of the results and the descriptive trends reported in Table 2.
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10 Insert Figure 1 about here
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14 **Additional analyses**

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16 One of the assumptions behind the previous tests is that the era in which the policies were
17 implemented disproportionately impacted the promotion of *top ranks* within the VOC. Our
18 historical account of events supports this interpretation. Nonetheless, further validation of our
19 claim calls for an analysis of the promotion chances of non-Dutchmen at lower levels of the
20 hierarchy (i.e., a control group not affected by those policies).
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29 Table 5 presents the LPM fixed-effects estimates for the promotion of seafarers from the
30 lowest ranks to petty officers (i.e., to mid-ranks). The sample is again limited to promotions that
31 occurred before the year 1756, thus permitting a direct comparison before and during the
32 implementation of the policies. Model 1 suggests that, on average, there was no difference in the
33 returns from experience between non-Dutch and Dutch seafarers at lower levels of the hierarchy.
34 Model 2 further confirms that this general trend holds true during both eras. These results suggest
35 that the policies implemented under van Imhoff affected the promotion to top ranks but did not
36 exert any effect on promotions at lower ranks, where unequal returns from experience were not
37 necessarily observed (van Tilburg, 2019; van Lottum, et al., 2011).
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53 ⁷ The lower probability of promotion of non-Dutchmen in comparison to local seamen for a limited number of trips
54 suggests that some skepticism against non-Dutchmen continued to exist within the VOC. The steep positive returns
55 from experience observed during era in which the policies were implemented, however, are consistent with a shift in
56 the evaluation criteria of non-Dutchmen compared to the previous era.
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Insert Table 5 about here

Robustness checks

To ensure the robustness of the results, we carried out two additional checks. First, to use a different counterfactual, we deployed entropy balancing, a multivariate method described by Hainmueller (2012) that creates balanced samples by reweighting a dataset. We focused on rebalancing the group of Dutch seafarers to match the group of non-Dutchmen in the VOC along the following dimensions: number of trips, being a seaman, previous performance, experience of the master, voyage destination, monthly certificate, debenture, and originating from a port city. Model 1 of Table 6 presents the complementary log-log estimates obtained after using this reweighting procedure. Once again, the results appear consistent with those discussed so far.

Insert Table 6 about here

Second, sample selection represents another potential problem, as not every seafarer was equally likely to engage in multiple trips (i.e., the requirement for inclusion in our risk set). In additional analyses, we double-checked the sensitivity of the estimates by applying a Heckman two-stage estimation procedure. The dummy variable *administrative career* (coded as 1 for seafarers who worked in various white-collar occupations, such as clerks or bookkeepers) was added in the first stage as an exclusion restriction to capture career dynamics related to multiple journeys. The intuition behind this choice is that due to lower mortality, individuals in an

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3 administrative career were more likely to engage in multiple journeys, though their promotion
4 chances within the administrative career track were not different from those in the naval career
5 track.⁸ Model 2 of Table 6 presents the estimates of a model equivalent to Model 3 reported in
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7 Table 4. The estimates obtained from this procedure (after adding the inverse Mills ratio as a
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9 further control variable) remain consistent with those of the main models.
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18 **Discussion and conclusions**

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21 Demographic diversity can provide creativity, flexibility, and public approval to organizations
22 (e.g., Williams & O'Reilly, 1998; Ely & Thomas, 2001). The theme of diversity is closely
23 intertwined with one of equality, namely the provision of similar opportunities to employees who
24 differ in terms of gender, race, national origin, or other aspects of social identity (Friedman &
25 Laurison, 2019). While management policies and government interventions are geared towards
26 this aim, they often fail to promote equal career opportunities due to the persistence of managerial
27 biases, stereotypes, and symbolic compliance (Castilla & Benard, 2010).
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38 While unequal access to career opportunities is a hot topic in management research today,
39 it is far from being a recent phenomenon. Current theorizing is therefore at risk of being specific
40 to a narrow present time and its specific societal problems.⁹ The case of the Dutch East India
41 Company is well suited to overcome some of these limitations: for several reasons, non-Dutch
42 seafarers faced limited career opportunities compared to Dutchmen; a large-scale change was
43 introduced, with new policies that were launched and then revoked. While lacking the precision of
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54 ⁸ When rerunning Model 4 of Table 4 and comparing the promotion chances of seamen to those of administrators
55 the two coefficients appear statistically undistinguishable.

56 ⁹ We wish to thank one of our reviewers for stimulating this reflection.
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3 an experimental design, as well as detailed data on individual differences in formal training and
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5 bonuses, this historical case allows us to explore the average effects induced by the provision of
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7 formal leadership training when included in a wider program of change and coupled to teamwork
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9 incentives. Historians who have worked on similar data have focused on the reconstruction of
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11 specific careers and policy changes within the VOC without investigating their impact on
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13 promotions between Dutchmen and non-Dutchmen (Bruijn, 2011; Bruijn & Gaastra, 2012). Our
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15 analyses of individual promotions to the top ranks are thus the first to (a) illustrate the existence
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17 of differential returns to experience in one of the first transnational corporations; and (b) show that
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19 the introduction of leadership training and teamwork incentives reduced unequal promotions.
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24 We believe that our paper and historical case study provide several contributions to the
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26 literature. First, recent research overviews have pointed to formal training as a less-than-ideal tool
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28 for managing discrimination, pointing to the limitations of training for skills only and the downside
29
30 of discretionary selection of candidates for training (Dobbin & Kalev, 2022). We build on this
31
32 insight and argue that training programs may be unsuccessful when they are not integrated into a
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34 systemic approach to inequality. Our qualitative investigation suggests that compulsory leadership
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36 training coupled with teamwork incentives may allow organizations to address complementary
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38 problems that lie at the core of inequality. While leadership training shapes employees' attitudes
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40 and competencies *before* they take on their role, teamwork incentives reaffirm the message *after*
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42 the employees become managers. A similar approach is directed at the attitudes and behaviors of
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44 employees, sending a consistent message within the organization. The results of our multivariate
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46 regression analyses confirm that leadership programs and teamwork incentives, along with other
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48 changes introduced by van Imhoff, helped alleviate double standards of evaluation (Toschi, 2000)
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3 and promoted greater equality in career opportunities across social groups (Correll & Ridgeway,
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5 2003; Tomaskovic-Devey & Avent-Holt, 2019; Amis et al., 2020).
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8 From an organizational standpoint, the provision of formal and compulsory training
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10 discourages subjective choices among managers, raises the competence bar for future applicants,
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12 and exposes minorities to a wider set of co-workers (Ely & Feldberg, 2016). The financial
13
14 incentives for teamwork channel the attention of decision makers to dimensions of evaluation other
15
16 than job-irrelevant social divisions. Within the VOC, the joint implementation of these policies
17
18 created more equal career opportunities across ethnic groups. Will these policies work similarly in
19
20 modern organizations? We are inclined to respond affirmatively to this question, although at least
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22 two conditions are required for our conclusions to hold. First, the beneficial effects described here
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24 may be contingent on the existence of complex interdependencies among the workers. Such
25
26 interdependencies may be less pronounced in many other organizational settings, for instance those
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28 characterized by sequential interdependency, routinized labor, and less environmental uncertainty.
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30 Second, to be effective in reducing unequal career opportunities, the leadership training and
31
32 teamwork incentives should be part of a broader program of change. This boundary condition leads
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34 to the following question: which alternative solutions fit within the scope of our arguments? Our
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36 theory highlights the importance of tackling attitudes and behaviors of employees over different
37
38 stages of their experience within the organization. Accordingly, the coupling of compulsory
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40 leadership training with self-managed teams or with inclusive performance evaluations (e.g., 360-
41
42 degree feedback) may also align with our reasoning. Additional data and a comparative research
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44 design can help to further sharpen the boundary conditions of our findings.
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52 Second, our results concerning the VOC's last period of existence provide new insights
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54 into profound drivers of group discrimination. While abundant research has explored the effects
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3 of the adoption of policies that may reduce unequal career opportunities (Dobbin & Kalev, 2022;
4 see Amis et al., 2018), much less attention has been dedicated to the consequences of abandoning
5 such programs upon proving their effectiveness. This question is particularly interesting as it may
6 further clarify the difficulties that organizations face in implementing durable interventions against
7 inequality. The last period of the VOC's existence was marked by a retreat from previously
8 implemented policies. Because revoking the policies could have induced either entrenchment of
9 equality norms or movement back to the status quo, we had no specific hypotheses concerning this
10 era. The enduring discount to experience faced by non-Dutchmen nonetheless points to a
11 regression of behaviors towards those observed before the implementation of the changes. We
12 interpret these results as suggesting that even when leadership training and incentives for
13 teamwork are jointly introduced and included in a wider program of change, they may produce
14 only temporary benefits rather than enduring norms and behaviors. These results show that social
15 divides (Correll & Ridgeway, 2003; Tomaskovic-Devey & Avent-Holt, 2019) may remain
16 dormant within organizations and re-emerge even after relatively long time spans. When thinking
17 about the generalizability of our results, we believe that two conditions contributed to them. First,
18 accountability was limited in our case, especially in relation to the existence of full-time managers
19 responsible for the implementation of interventions (Dobbin, Schrage, Kalev, 2015) or committees
20 that monitored decisions (Castilla, 2015). Second, the reliance of the VOC on the experience
21 accumulated on its ships (i.e., firm-specific human capital), rather than more accurate metrics of
22 performance (that could reduce information asymmetries) also contributed to the results.
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50 Third, the historical case reported in this study allows us to reflect on the organizational
51 and societal sources of resistance to the implementation of durable interventions against inequality
52 (see Amis et al., 2018; Greckhamer, 2011). In fact, the policies proposed by van Imhoff where
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3 quickly rescinded because “they irritated the old guard” and were judged as “too expensive” (see
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5 Bruijn 2011, p. 178-183). While the massive financial success achieved by the Company during
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7 the earlier eras – in which its ships were mostly managed by Dutchmen – contributed to the shared
8
9 identity of an ‘imagined’ community (Anderson, 2004), it also emerged as a source of long-lasting
10
11 resistance to change. The ‘behavioral’ component of this resistance is easier to appreciate when
12
13 pitching it against other achievements obtained by the Company under van Imhoff, such as
14
15 speedier voyages (Wezel & Ruef, 2020) and financial results in Asia that were the best of the
16
17 eighteenth century (Gaastra, 2003, p. Table 18). Our historical case may thus be seen as providing
18
19 rare evidence of the multifold challenges that organizations face when engaging in profound
20
21 cultural changes directed at reducing discrimination. Furthermore, societal inertia and limited
22
23 interest in ethnic equality are also likely to sustain a regression towards previous practices and
24
25 behaviors. While societal interest may not represent a solution to inequality nowadays, owing to
26
27 symbolic compliance (Ely & Thomas, 2001), it arguably is crucial to preserve the legitimacy of
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29 organizational interventions on this matter. Additional work in different empirical contexts is
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31 needed to explore the organizational conditions under which discrimination may be eradicated,
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33 with a special focus on those settings in which inequality is rooted in long-lasting status differences
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35 across social groups and in enduring attributions of financial success to a dominant group.
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43 In reflecting on these contributions to the literature, we acknowledge several limitations of
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45 our work. First, our measure of ethnic groups is based on ascriptions of cultural norms to foreign
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47 origins and regional boundaries. While this seems reasonable in today’s geopolitical landscape, it
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49 is less obvious in the early modern era in which the VOC operated. For instance, 18th-century
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51 Scandinavia was a heterogeneous region dominated by the Swedish empire, but also contested by
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53 Russia and Denmark-Norway. Moreover, the ascription of ethnicity based on city of origin does
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3 not capture migration events that relocated a seafarer to different regions over his life course.
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5 Second, our data remain mute about the lived experience of discrimination among non-Dutch
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7 seafarers. For instance, a compulsory training program may create more equal opportunities by
8
9 aligning an employee to the norms and expectations of the employer. Disentangling the potential
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11 mechanisms at work will be important for understanding the implications of our arguments for
12
13 minority group inclusion. Richer qualitative evidence would be needed to confirm our
14
15 interpretations. Last, the specific constraints of our historical data deserve attention. Like most
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17 archival sources, they prevent direct observation of the group processes under consideration. VOC
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19 seafarers also differed from the modern workforce along several dimensions (e.g., low-ranked
20
21 seafarers were effectively indentured servants), inviting some care in generalizing our results.
22
23 While non-negligible, we believe that these limitations are outweighed by the opportunity to study
24
25 a case of unequal promotions in one of history's first modern organizations.
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Table 1. Descriptive statistics and correlations

	Mean	Std. dev.	1	2	3	4	5	6	7	8	9	10	11	12
1 Rank promotion	0.05	0.22	1.00											
2 Non-Dutch seafarer	0.33	0.47	-0.09	1.00										
3 Number of trips made	2.84	1.23	0.05	-0.08	1.00									
4 Cumulative number of non-Dutch officers (log)	6.48	0.89	0.00	0.18	0.14	1.00								
5 Performance in previous voyage (log days)	5.44	0.2	0.02	-0.03	-0.01	-0.13	1.00							
6 Mean VOC experience of the crew	1.26	0.11	-0.04	0.03	0.12	0.13	-0.05	1.00						
7 Number of seafarers on board	264.51	81.53	-0.03	0.14	0.05	0.50	-0.07	-0.20	1.00					
8 Number of seafarers from same city	22.46	30.88	0.03	-0.46	0.06	-0.26	0.02	0.03	-0.06	1.00				
9 Seafarer from same city as chamber	0.32	0.46	0.06	-0.48	0.10	-0.17	0.03	0.04	-0.13	0.86	1.00			
10 Monthly certificate	0.13	0.34	0.09	-0.17	0.00	-0.18	0.04	-0.11	-0.12	0.12	0.12	1.00		
11 Debenture	0.67	0.47	-0.09	0.06	-0.06	0.30	-0.01	-0.06	0.19	-0.11	-0.07	0.03	1.00	
12 Experience of the master	1.98	1.21	-0.01	0.05	0.04	0.15	-0.03	0.08	0.17	-0.02	-0.03	-0.05	0.04	1.00

Table 2. Means of the promotion variable for Dutch and non-Dutch seafarers

	1700-1741	1700-1741		1742-1755	1742-1755	
	Grand mean Dutch	Grand mean non-Dutch	Delta	Grand mean Dutch	Grand mean non-Dutch	Delta
	0.062	0.020	0.042	0.062	0.026	0.036
Number of trips	Mean Dutch	Mean non-Dutch	Delta	Mean Dutch	Mean non-Dutch	Delta
2	0.052	0.019	0.033	0.052	0.018	0.034
3	0.070	0.025	0.045	0.060	0.029	0.031
4	0.080	0.019	0.061	0.057	0.042	0.015

Peer Review Version

Table 3. Linear probability models of promotion from mid- to high-rank in the Dutch East India Company, 1700-1796

VARIABLES	(1) Top Rank promotion	(2) Top Rank promotion
Number of trips	0.004** (0.001)	0.004** (0.001)
Non-Dutch seafarer	-0.040** (0.005)	-0.044** (0.005)
Non-Dutch seafarer # Period 1742-1755		0.015* (0.007)
Cumulative number of non-Dutch officers (log)	-0.004 (0.007)	-0.004 (0.007)
Performance of previous voyage (log)	0.021** (0.007)	0.021** (0.007)
Mean VOC experience of the crew	-0.113** (0.017)	-0.114** (0.017)
Period 1742-1755	0.002 (0.008)	-0.004 (0.008)
Period 1756-1796	0.024* (0.011)	0.024* (0.011)
Number of seafarers on board	-0.000+ (0.000)	-0.000+ (0.000)
Number of seafarers from same city	-0.001** (0.000)	-0.001** (0.000)
Seafarer from same city as chamber	0.056** (0.009)	0.056** (0.009)
Monthly certificate	0.060** (0.006)	0.060** (0.006)
Debenture	-0.054** (0.004)	-0.054** (0.004)
Experience of the master	-0.000 (0.001)	-0.000 (0.001)
Constant	0.127+ (0.066)	0.125+ (0.066)
Observations	23,601	23,601
R-squared	0.041	0.041
Number of individuals	17,268	17,268

Robust standard errors in parentheses

** p<0.01, * p<0.05, + p<0.1 (two-tailed tests)

Table 4. Individual fixed-effects linear probability models of promotion from mid- to high-rank in the Dutch East India Company, 1700-1796

VARIABLES	(1) Top rank promotion	(2) Top rank promotion	(3) Top rank promotion	(4) Until 1755	(5) After 1756	(6) Only seamen, Until 1755
Number of trips	0.019** (0.004)	0.024** (0.004)	0.025** (0.004)	0.029** (0.007)	0.007 (0.009)	0.007 (0.006)
Non-Dutch seafarer# Number of trips		-0.011** (0.004)	-0.016** (0.005)	-0.023** (0.006)	-0.016** (0.008)	-0.009 (0.006)
Non-Dutch seafarer # Period 1742-1755			-0.084** (0.032)	-0.104* (0.052)		-0.110* (0.051)
Period 1742-1755 # Number of trips			-0.007 (0.006)	-0.017* (0.007)		-0.001 (0.008)
Non-Dutch seafarer # Number of trips # Period 1742-1755			0.017* (0.009)	0.026* (0.011)		0.024+ (0.012)
Cumulative number of non-Dutch officers (log)	0.051+ (0.027)	0.044 (0.027)	0.044 (0.027)	0.037 (0.035)	0.451** (0.156)	0.058+ (0.034)
Performance of previous voyage (log)	0.018+ (0.011)	0.019+ (0.011)	0.018+ (0.011)	0.015 (0.014)	0.004 (0.017)	0.011 (0.012)
Mean VOC experience of the crew	-0.080** (0.030)	-0.082** (0.030)	-0.083** (0.030)	-0.077+ (0.041)	-0.062 (0.049)	-0.062+ (0.037)
Period 1742-1755	-0.019 (0.015)	-0.017 (0.015)	0.017 (0.030)	0.062 (0.038)		0.002 (0.037)
Period 1756-1796	0.001 (0.024)	0.005 (0.024)	0.006 (0.025)			-0.003 (0.024)
Number of seafarers on board	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
Number of seafarers from same city	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Seafarer from same city as chamber	0.016 (0.021)	0.017 (0.021)	0.016 (0.021)	-0.006 (0.028)	0.087** (0.038)	0.031 (0.028)
Monthly certificate	0.040** (0.012)	0.039** (0.012)	0.040** (0.012)	0.034* (0.014)	0.049+ (0.027)	0.011 (0.013)
Debenture	0.016* (0.008)	0.017* (0.008)	0.017* (0.008)	0.026** (0.009)	0.004 (0.016)	0.030** (0.011)
Experience of the master	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)	0.001 (0.003)	0.002 (0.003)	0.002 (0.002)
Constant	-0.365* (0.181)	-0.322+ (0.181)	-0.318+ (0.182)	-0.269 (0.216)	-3.187** (1.121)	-0.319 (0.220)
Observations	23,601	23,601	23,601	15,319	8,282	9,577
R-squared	0.064	0.066	0.066	0.056	0.125	0.041
Number of individuals	17,268	17,268	17,268	11,561	6,187	7,430

Robust standard errors in parentheses. Nation of origin of the seafarer, career, period (Column 1), destination, war, regiment on board, and chamber fixed effects added to the models. Pepper price, tea price and volume of bills of exchange also included ** p<0.01, * p<0.05, + p<0.1

Table 5. Individual fixed-effects linear probability models of promotion from low- to mid-rank in the Dutch East India Company, 1700-1755

VARIABLES	(1) Mid rank promotion	(2) Mid rank promotion
Number of trips	0.135** (0.020)	0.137** (0.021)
Non-Dutch seafarer# Number of trips	0.054 (0.038)	0.058 (0.045)
Non-Dutch seafarer # Period 1742-1755		0.249 (0.309)
Period 1742-1755 # Number of trips		-0.004 (0.032)
Non-Dutch seafarer # Number of trips # Period 1742-1755		-0.055 (0.094)
Cumulative number of non-Dutch officers (log)	0.553** (0.098)	0.548** (0.099)
Performance of previous voyage (log)	-0.072+ (0.043)	-0.070 (0.043)
Mean VOC experience of the crew	-0.233* (0.113)	-0.228* (0.113)
Period 1742-1755	0.097* (0.046)	0.105 (0.120)
Number of seafarers on board	-0.000 (0.000)	-0.000 (0.000)
Number of seafarers from same city	0.001 (0.001)	0.001 (0.001)
Seafarer from same city as chamber	-0.062 (0.062)	-0.062 (0.062)
Monthly certificate	0.093** (0.032)	0.093** (0.032)
Debenture	0.032 (0.025)	0.033 (0.025)
Experience of the master	-0.011 (0.008)	-0.010 (0.008)
Constant	-2.429** (0.617)	-2.434** (0.623)
Observations	17,134	17,134
R-squared	0.274	0.275
Number of individuals	14,168	14,168

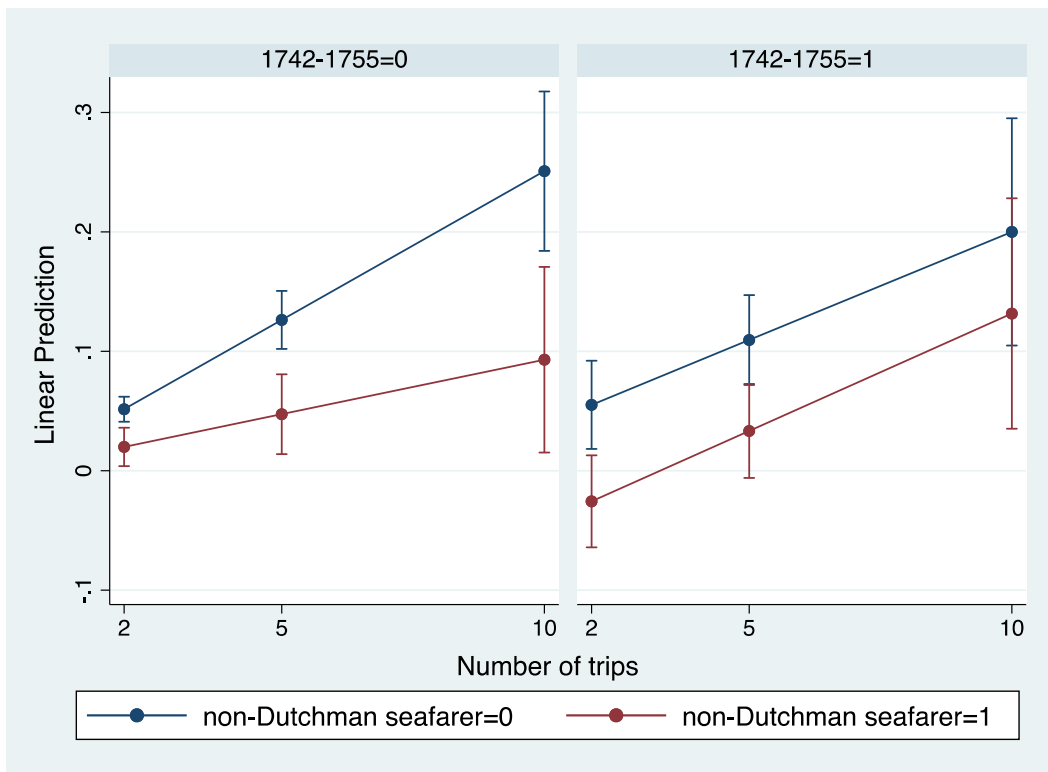
Robust standard errors in parentheses. Nation of origin of the seafarer-, career-, destination-, war-, regiment on board-, and chamber-fixed effects added to the models. Pepper price, tea price and volume of bills of exchange also included ** p<0.01, * p<0.05, + p<0.1

Table 6. Additional robustness checks for promotions from mid- to high-rank in the Dutch East India Company, 1700-1796

VARIABLES	(1)	(2)
	Top rank promotion Complementary log-log Until 1755	Top rank promotion Heckman selection Full sample
Non-Dutch seafarer	-0.410 (0.464)	
Number of trips	0.118** (0.041)	0.026** (0.004)
Non-Dutch seafarer# Number of trips	-0.223 (0.146)	-0.015** (0.005)
Non-Dutch seafarer # Period 1742-1755	-0.815 (0.548)	-0.077* (0.032)
Period 1742-1755 # Number of trips	-0.061 (0.087)	-0.007 (0.006)
Non-Dutch seafarer# Number of trips # Period 1742-1755	0.431* (0.180)	0.016+ (0.009)
Cumulative number of non-Dutch officers (log)	0.304 (0.218)	0.044 (0.027)
Performance of previous voyage (log)	0.217 (0.228)	0.018+ (0.011)
Mean VOC experience of the crew	-3.934** (0.586)	-0.083** (0.029)
Period 1742-1755	-0.236 (0.336)	0.012 (0.030)
Period 1756-1796		-0.006 (0.025)
Number of seafarers on board	-0.003** (0.001)	-0.000 (0.000)
Number of seafarers from same city	-0.009** (0.003)	-0.000 (0.000)
Seafarer from same city as chamber	0.680** (0.182)	0.051* (0.022)
Monthly certificate	0.885** (0.112)	0.056** (0.012)
Debenture	-0.986** (0.093)	-0.026* (0.010)
Originating from port city	0.289* (0.115)	
Experience of the master	-0.009 (0.045)	0.003+ (0.002)
Inverse mills ratio		0.167** (0.027)
Constant	0.246 (1.991)	-0.534** (0.185)
Observations	15,297	23,601
R-squared		0.072
Log-likelihood	-1458.46	

Robust standard errors in parentheses. Destination-, war-, regiment on board-, and chamber-fixed effects added to the models. Pepper price, tea price and volume of bills of exchange also included ** p<0.01, * p<0.05, + p<0.1

Figure 1. Plot of interaction effects reported in Table 4, Model 3



Author biographies

Filippo Carlo Wezel is a professor of organization and management at Università della Svizzera italiana (Switzerland). His research focuses on the impact of sociocognitive structures in markets on organizational behaviors and outcomes, and on employee mobility within and around organizations.

Martin Ruef is Jack and Pamela Egan Distinguished Professor of Entrepreneurship at Duke University. His research considers the social context of entrepreneurship from both a contemporary and historical perspective. His historical analyses address entrepreneurial activity and constraint during periods of profound institutional change.

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