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**FROM BOYCOTT TO BUYCOTT:
IS ACTIVISM
FROM THE NORTH
GOOD FOR THE SOUTH?**

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From Boycott to Buycott: Is Activism from the North Good for the South?^{*†}

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Abstract

This article develops an original theoretical exploration of the potential effect of northern activism on working conditions and welfare in the South using a Bertrand-type duopoly model with endogenous prices, wages and qualities. We assume that all consumers derive the same utility from one (“northern”) good but are heterogeneous with regards to the other (“southern”) good. This asymmetry captures in a stylized fashion the consensus among northern consumers on the labor conditions prevailing in the North and their ambivalence concerning labor practices in the South. A greater consumer’s social consciousness can be seen as a punishment (boycott) for the southern socially unsound goods or a reward (buycott) for more virtuous practices in the North. We show that an activism through a buycott strategy or a boycott strategy leads to opposite effects on prices, wages and on the scope of quality differentiation, a buycott being better than a boycott for southern wage, southern quality and southern welfare.

Keywords: Activism, Boycott, Buycott, Union duopoly, North-South trade, Social consciousness, Wage bargaining, Quality, Welfare.

JEL Classification: D11, D21, D43, F11, F13, F16, J51, L11, L13, M14.

1 Introduction

In the context of globalized trade, social issues play a large role in manufacturing strategies and purchasing behaviors. One of the most contentious debates involves international trade and workers’ rights. Many firms take advantage of globalized trade to produce goods in (southern) countries with fewer legislative or social constraints. For example, Cambodian garments or Chinese cell-phones are manufactured by workers whose fundamental labor rights are largely ignored.¹ A trading partner

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[†]A supplementary Mathematica file containing the full and detailed model solving is available upon request.

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¹The Rana Plaza scandal underlines sweatshops’ conditions notably described by Kristof and WuDunn (Nicholas D. Kristof & Sheryl WuDunn, Two Cheers for Sweatshops, New York Times, Sept. 24, 2000,

that fails to enforce fundamental labor rights harms workers and can unfairly create a comparative advantage and a race to the bottom (Olney, 2013). It is now well established that trade sanctions for labor rights purpose are blunt and counter-productive instruments since they harm the workers they are designed to help (Maskus, 1999; Granger and Siroen, 2006; Brown and Stern, 2008).

This is why, in response to these sometimes unsuccessful measures, private actions have emerged to force firms to provide greater labor rights and improve working conditions. Among these actions, the political consumerism (Micheletti and Stolle, 2005; Stolle and Micheletti, 2013) introduces political, social or environmental values in prices as do the taste or the quality and consumers/citizens can deliberately avoid buying problematic products or instead promoting socially sound goods for ethical, environmental or political motivations.

In other words, this form of action is mainly based on the increase in social consciousness by northern consumers who become less willing to pay for goods produced under poor labor provisions (Oka, 2010) or more willing to pay for more virtuous goods. These opposite behaviors can respectively translate into threats of boycotts or hopes of buycotts² for which both put pressure on firms to acknowledge their social responsibility and to treat their workers more fairly (Baron, 2001). This route clearly corresponds to an activism that would influence working conditions in the South impelled by consumers, NGOs, citizens or unions who use the market as influential site of politics to solve globalized problems that go beyond regional or national regulations.

From an economic point of view, it gives raise to many questions that still remain about the mechanisms involved. What are the consequences of this activism on prices, wages, quality, demands and welfare in the South? Can we distinguish the effects of a boycott from the effects of a buycott?

We are not aware of theoretical models that answer these questions. Existing theoretical frameworks that analyze the relationship between labor standards and international trade largely use HOS-style models (Brown, Deardoff and Stern, 1996; Dehejia and Yiagadeesen, 2004)³ and a very limited literature deals with the link between labor conditions and international trade in an imperfectly competitive market (Cardebat and Cassagnard, 2010). Although imperfect competition is useful in understanding the effect of social awareness on prices, profits and trade pattern, there

<http://www.nytimes.com/2000/09/24/magazine/two-cheers-for-sweatshops.html>). The International Labor Organization (ILO) declaration defined the four core labor standards embodied in eight conventions (ILO Conventions 29, 87, 98, 100, 105, 111, 138 and 182): freedom of association and right to collective bargaining, elimination of all forms of forced or compulsory labor, elimination of employment and occupation discrimination and abolition of child labor.

²On the one hand, boycott is “an attempt by one or more parties to achieve certain objectives by urging individual consumers to refrain from making selected purchases in the marketplace” (Friedman, 1999); whereas on the other hand buycott may be seen as a more positive consumer activism which attempts to urge consumers to reward business for good practices.

³HOS models essentially say that countries export goods that use their abundant and cheap production factors and import goods that use the countries’ scarce production factors. The net effect of labor standards on North-South trade is ambiguous because it largely depends on the employment laws and on regulations and practices (abolition of forced labor, elimination of discrimination or abolition of child labor). Changes in fundamental labor rights in the South modify factor endowments or directly affect labor costs. The elimination of discrimination increases the specialization of labor-intensive industries whereas the abolition of forced labor, compulsory labor and child labor have the opposite effect in the short term. For example, the right to unionize directly affects labor costs in the South. These changes in labor rights transform the patterns of trade and production.

are no models that explicitly take into account the emergence of heterogeneous consumers and activists concerned with social content. Indeed many NGOs and northern governments try to mobilize consumers by considering that buyers will necessarily positively influence southern working conditions. However this social consciousness varies widely with individuals and creates heterogeneity in consumers' willingness to pay for social attributes.

In this context we propose an original Bertrand-type duopoly model that will help disentangle the effects of these competing forces within the triad of consumers, firms and workers (or unions). The model's premise is that consumers have a choice to make between a first good (or Firm 1) assessed exclusively through objective factors that leave little room for disagreement and result in all consumers deriving the same utility from this good; and a second good (or Firm 2) for which subjective factors result in all consumers deriving different utilities from this good. Although we have the North-South trade in mind, this asymmetric specification of utilities can describe a variety of situations. For example, a food item may be produced organically by Firm 1 or industrially by Firm 2. A barrel of oil may be produced in an environmentally responsible manner by Firm 1 or irresponsibly by Firm 2. Of interest to us is the example of garments manufactured in the North by Firm 1 constrained by strict labor laws and in the South by Firm 2 with fewer legislative or social limitations. In all three cases we can reasonably say that the first firm is "virtuous" in some sense, which translates into the common utility. Misgivings concerning farming methods, sources of hydrocarbons or labor laws will create the heterogeneity of the second utility. Our goal is to assess how consumer heterogeneity with respect to the second good affects prices, wages (endogeneized by capturing the "tug-of-war" between workers and managers who wish to maximize total wages and profits respectively), qualities and demands. To support our reasoning, this heterogeneity reflects prosocial consumer behavior (Benabou and Tirole, 2005, 2010).

We build on this idea to unveil another contribution of this article. This lies in the identification of changes in consumers' heterogeneity as a boycott or a buycott. Based on the approach of Garcia-Gallego and Georgantzis (2009), we have retained two types of changes in consumer's valuations for goods, that is, the *heterogeneity-reducing* case and the *heterogeneity-enhancing* which we relate to the boycott and buycott respectively. While the boycott aims at raising awareness among those who have the lowest willingness to pay (henceforth WTP) for social attributes, the buycott conversely encourages consumers to increase even more their WTP for non tainted goods, we consider the heterogeneity increases between consumers. In this way, our results show that an activism based on boycott strategies leads to a decrease in prices, wages and provides a window to an increase for the scope of quality differentiation. We also show that an activism that promotes the production of more responsible goods and provides positive information leads to completely opposite effects. Buycott will be preferred to boycott in the South since the first one increases prices, wages, quality and welfare while the second one decreases them. From a bird's eye view, we can assert that this article is the first theoretical research that takes into account consumer's social consciousness and corporate social responsibility (through wage bargaining) in order to evaluate the effects of several forms of activism on prices, wages, qualities and southern welfare.

The remainder of the article is structured as follows. In Section 2 we lay out the baseline model in which the consumers, the firms and the workers will interact. We calculate the equilibria of this model by considering a three-stage game in which firms first choose their quality levels, workers and firms bargain over wages and finally both firms play a one-shot Bertrand-Nash game aimed at finding optimal prices. We introduce in Section 3 the notions of boycott and buycott through the changes in consumers' heterogeneity. Equilibria determined in the basic model then give us a better understanding of the effects of a boycott and buycott strategy on price, wages and qualities (in Section 3) and on southern welfare (in Section 4). Section 5 summarizes the main findings and discusses extensions.

2 The Theoretical Framework

In this section we present the basic setup of a partial-equilibrium model with prices, wages, qualities and socially conscious consumers. In this model, both firms compete in one market by producing vertically differentiated goods. We start out by presenting the fundamental characteristics of consumers (the demand side) and firms (the offer side). Next, we break the equilibrium analysis into three steps by characterizing each stage of the game and by solving for the game's subgame-perfect Nash equilibria.

2.1 Fundamental Characteristics of Consumers and Firms

2.1.1 Demand Side

We consider two countries, North (Country 1, the developed country) and South (Country 2, the less developed country) both producing a substitute good for the northern market only. The intrinsic qualities of the two goods are q_1 and q_2 respectively. We assume that there is a consensus among northern consumers who each derive the same utility θ_1 from purchasing the first (northern) good (we assume that this utility is equal to the product's quality q_1). This assumption reflects in particular the fact that there are no misgivings concerning working conditions in the North.

Conversely there are such misgivings concerning goods produced in the South. In the absence of consumer's social consciousness all northern consumers would derive from the southern product a utility θ_2 equal to its intrinsic quality q_2 . However many southern countries are plagued by low wages, forced/child labor, poor working conditions, pollution, discrimination, etc. These problems can have the effect of i) depressing consumers' WTP for a good produced under poor conditions and ii) making consumers more receptive to boycott campaigns aimed at pressuring the southern firm to increase their workers' wages and improve their working conditions.

We model this effect by assuming that every consumer who considers buying the southern good discounts his utility by a factor δ that is uniformly distributed between a *minimum* value δ_m and some maximum $\delta_M < 1$. Utilities θ_2 are thus uniformly distributed on the interval $[(1 - \delta_m)q_2, (1 -$

$\delta_M)q_2]$. A small (resp. large) maximum discount rate means that northern consumers have few (resp. strong) social consciousness and their WTP for the second product remains close to its intrinsic quality q_2 . At unit prices (p_1, p_2) the consumer's utility U_i from buying product i is

$$U_i \stackrel{\text{def.}}{=} R + \theta_i - p_i = \begin{cases} R + q_1 - p_1, & i = 1, \\ R + (1 - \delta)q_2 - p_2, & \delta \text{ uniform on } [\delta_m, \delta_M], \quad i = 2 \end{cases} \quad (1a)$$

where R is a reservation price, *i.e.* the two consumers' identical valuation of the good; R is large enough to guarantee that the market is covered. The sensitivity of northern consumers' social consciousness is reflected in U_2 (Eq. (14)) that decreases with the discount factor δ .

Routine calculations (explained in Figure 1) show that both demands $D_1(p_1, p_2)$ and $D_2(p_1, p_2)$ are

$$D_1(p_1, p_2) = \frac{q_2\delta_M + \Delta q - \Delta p}{q_2(\delta_M - \delta_m)} \text{ and } D_2(p_1, p_2) = 1 - D_1(p_1, p_2), \quad (2)$$

where $\Delta p \stackrel{\text{def.}}{=} p_1 - p_2$ and $\Delta q \stackrel{\text{def.}}{=} q_1 - q_2$. These demands are between 0 and 1 under the following condition:

Condition 2.1 $q_2\delta_m < \Delta p - \Delta q < q_2\delta_M$.

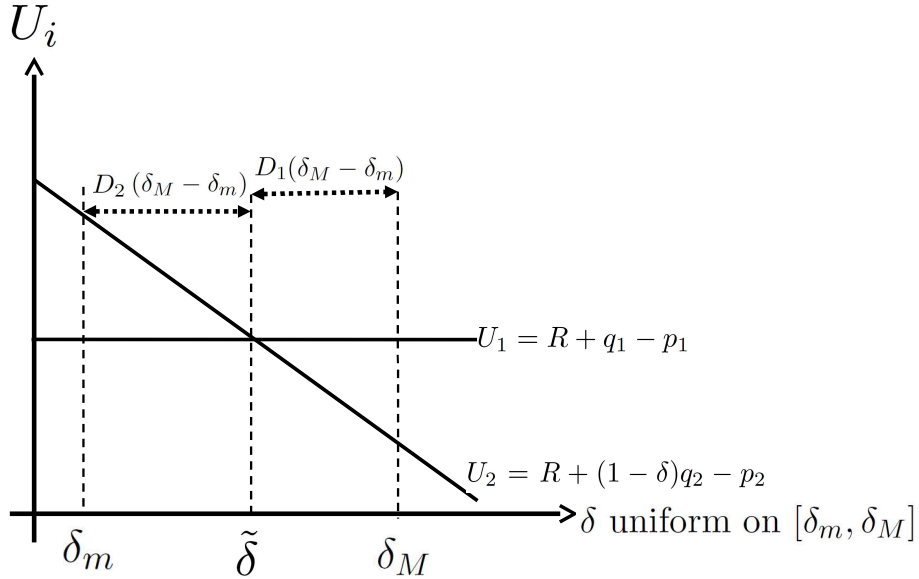


Figure 1: Utilities with respect to Consumer's Social Consciousness. We represent the consumer's utilities U_1 and U_2 from buying the first (northern) and the second (southern) good as functions of the discount rate $\delta \in [\delta_m, \delta_M]$. When there is a market for both firms (Eq. (2.1)) the diagram illustrates the derivation of the demands. The first (or second) demand is the fractional length of the segment $[\delta_m, \delta_M]$ (on the x -axis) for which the second utility $U_2 = R + (1 - \delta)q_2 - p_2$ is smaller (or larger) than the (constant) first utility $U_1 = R + q_1 - p_1$. The indifferent consumer between the first and the second good has the discount factor $\tilde{\delta} = (\Delta p - \Delta q)/q_2$.

2.1.2 Offer Side

We assume the northern firm (Firm 1) and the southern firm (Firm 2) are in Bertrand competition. Both goods are produced using constant returns to scale technologies and a single factor of production: each good requires one unit of labor paid at the prevailing wages w_1 and w_2 in each one of the two countries. We also assume that the marginal cost of producing the quality q_i (denoted c_i) is a convex function of the firm's level of quality - hence a cost of $c_i q_i^2$ ($i = 1, 2$) to produce the q_i units of quality. The resulting unit costs are $k_i \stackrel{\text{def.}}{=} w_i + c_i q_i^2$ (with $k_i < p_i$) and positive margins are $M_i(p_1, p_2) \stackrel{\text{def.}}{=} p_i - k_i$. We express the profits as the products of the margins by the demands (no sunk costs):

$$\Pi_i(p_1, p_2) \stackrel{\text{def.}}{=} M_i(p_1, p_2) D_i(p_1, p_2), i = 1, 2. \quad (3)$$

2.2 Model Equilibria in a Three-Stage Game

The equilibrium outcome of our model will be determined in a three-stage game. Firms first simultaneously choose their quality levels. Next workers/firms bargain over wages in both firms. Finally both firms play a one-shot Bertrand-Nash game aimed at finding optimal prices. We assume that the information is perfect in the subgames corresponding to these stages. We solve the problem backwards in the usual fashion. Superscript ($\tau = p, w, q$) indicates equilibria at each stage (respectively short term stage, medium term stage, long term stage). We first derive equilibrium prices (p_1^p, p_2^p) as a function of fixed wages (w_1, w_2) and fixed qualities (q_1, q_2) ("Price game", Subsection 2.2.1). We then endogenize wages which leads to equilibrium wages (w_1^w, w_2^w) and prices (p_1^w, p_2^w) as functions of fixed qualities ("Wage game", Subsection 2.2.2). Finally we also endogenize qualities which give us equilibrium qualities (q_1^q, q_2^q) ("Quality game", Subsection 2.2.3).

2.2.1 Price Game

From Eq.(3) and $\forall i, j = 1, 2$ and $i \neq j$ it is easy to define the reaction functions of the two firms $R_i^p(p_j) \stackrel{\text{def.}}{=} \max_{p_i} \pi_i(p_i, p_j)$ such that

$$R_i^p(p_j) = \begin{cases} \frac{1}{2}(p_2 + k_1 + \Delta q + \delta_M q_2) & \text{if } i = 1, \\ \frac{1}{2}(p_1 + k_2 - \Delta q - \delta_m q_2) & \text{if } i = 2. \end{cases} \quad (4a)$$

$$(4b)$$

We note that $R_i^p(p_j)$ is increasing in δ_M and decreasing in δ_m . Solving the reaction functions for p_1 and p_2 yields the unique Bertrand-Nash equilibrium prices:

$$p_i^p = k_i + M_i^p \quad (5)$$

where

$$M_i^p(p_j) = \begin{cases} \frac{\Delta q - \Delta k + q_2(2\delta_M - \delta_m)}{3} & \text{if } i = 1, \\ q_2(\delta_M - \delta_m) - M_1^p(w_1, w_2) & \text{if } i = 2, \end{cases} \quad (6a)$$

$$(6b)$$

where $\Delta k \stackrel{\text{def.}}{=} k_1 - k_2$ and $\Delta p^p \stackrel{\text{def.}}{=} p_1^p - p_2^p$.

The candidate equilibrium prices need to satisfy both inequalities of Condition (2.1) at the Bertrand-Nash equilibrium price: $\Delta q + \delta_m < \Delta p^p < \Delta q + \delta_M$. Then this condition becomes

$$\text{Condition 2.2} \quad \overbrace{2\delta_m - \delta_M}^{\Leftrightarrow M_2^p > 0} < \frac{\Delta k - \Delta q}{q_2} < \overbrace{2\delta_M - \delta_m}^{\Leftrightarrow M_1^p > 0}.$$

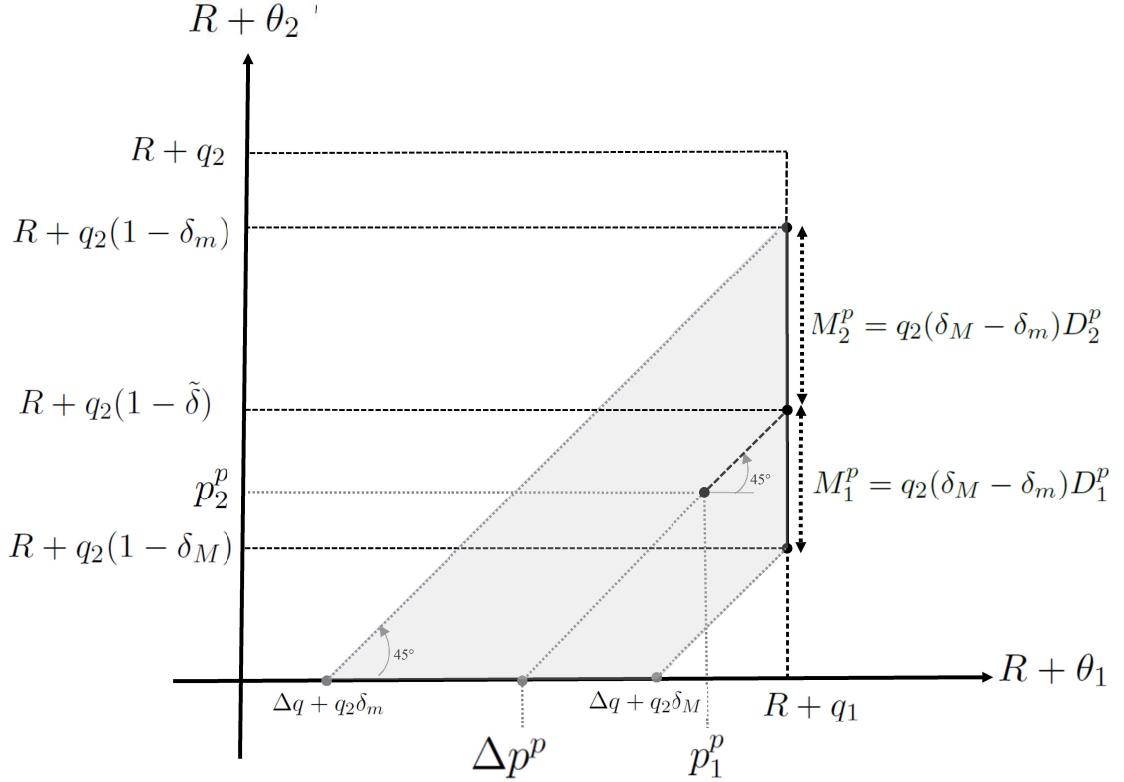


Figure 2: **Prices, Margins, and Condition 2.2 in the Space of Utilities.** Prices are necessary in the grey area that corresponds to Condition 2.2. Margins (M_1^p, M_2^p) are graphically obtained by the dotted diagonal lines coming up at a 45% angle from the equilibrium price to the line segment composed by the points $(R + q_1, R + q_2(1 - \delta_M))$ and $(R + q_1, R + q_2(1 - \delta_m))$. This line segment is then divided in two segments that represent the margin addressed to each firm at the equilibrium. Firm i 's equilibrium profit may be written at the equilibrium as follows : $\Pi_i^p = \frac{(M_i^p)^2}{q_2(\delta_M - \delta_m)} = q_2(\delta_M - \delta_m)(D_i^p)^2$.

2.2.2 Wage Game

We endogenize wages (w_1, w_2) in a manner that incorporates two competing perspectives: that of workers and unions seeking to increase their total wages and that of managers seeking to increase their profits. Following Dunlop (1944), Sørensen (1992), Bacchiega (2013) and Bacchiega and Minniti (2015), we take total wages $V_i(w_1, w_2) \stackrel{\text{def.}}{=} w_i D_i^p(w_1, w_2)$ ($i = 1, 2$) as the objective function of the workers and profits $\Pi_i^p(w_1, w_2)$ as the objective function for the firms. With coefficients $\alpha_i \in [0, 1]$ measuring the bargaining power of workers in Firm i both sides will agree on equilibrium wages (w_1^w, w_2^w) which maximize the generalized Nash products

$$G_i(w_1, w_2) \stackrel{\text{def.}}{=} (V_i(w_1, w_2))^{\alpha_i} (\Pi_i^p(w_1, w_2))^{1-\alpha_i} \quad (7)$$

Equilibrium wages at which first order conditions are satisfied, (i.e. $\partial G_1(w_1, w_2)/\partial w_1 = 0$ and $\partial G_2(w_1, w_2)/\partial w_2 = 0$) are given by⁴

$$\begin{pmatrix} w_1^w(q_1, q_2) \\ w_2^w(q_1, q_2) \end{pmatrix} = \frac{1}{4 - \alpha_1 \alpha_2} \begin{pmatrix} \alpha_1(2 - \alpha_2)(\Delta q - \Delta c + q_2 h_1) \\ -\alpha_2(2 - \alpha_1)(\Delta q - \Delta c + q_2 h_2) \end{pmatrix} \quad (8)$$

where $\Delta c \stackrel{\text{def.}}{=} c_1 q_1^2 - c_2 q_2^2$, $h_1 \stackrel{\text{def.}}{=} \frac{\delta_M(4 + \alpha_2) - 2\delta_m(1 + \alpha_2)}{2 - \alpha_2}$ and $h_2 \stackrel{\text{def.}}{=} \frac{\delta_m(4 + \alpha_1) - 2\delta_M(1 + \alpha_1)}{2 - \alpha_1}$.

It is finally easy to check for each firm, wage is a constant proportion of the margin at the equilibrium:

$$w_i^w(q_1, q_2) = \frac{3\alpha_i}{2 - \alpha_i} M_i^w(q_1, q_2). \quad (9)$$

With these equilibrium wages Condition 2.2 becomes

Condition 2.3

$$\underbrace{\Leftrightarrow w_2^w(q_1, q_2) > 0}_{h_2} < \frac{\Delta c - \Delta q}{q_2} < \underbrace{\Leftrightarrow w_1^w(q_1, q_2) > 0}_{h_1}, \quad (10)$$

Proof 2.4 See Appendix (A.1).

2.2.3 Quality Game

Finally we endogenize the qualities: we seek equilibrium qualities (q_1^q, q_2^q) for which the first profit $\Pi_1^q(q_1, q_2^q)$ as a function of q_1 reaches a maximum at q_1^q and $\Pi_2^q(q_1^q, q_2)$ as a function of q_2 reaches a

⁴Details in Appendix(A.1)

maximum at $q_2^g(\delta_m)$. Equilibrium qualities are⁵

$$\begin{pmatrix} q_1^g \\ q_2^g \end{pmatrix} = \begin{pmatrix} \frac{1}{2c_1} \\ (1-h_2) + \sqrt{(1-h_2)^2 + 3\frac{c_1}{c_2}} \\ \frac{1}{6c_2} \end{pmatrix} \quad (11)$$

Condition 2.3 is satisfied at the quality stage if

Condition 2.5

$$\frac{1}{4}(2-3h_1+h_2)(2-h_1-h_2) < \frac{c_2}{c_1} < (1-h_2)^2. \quad (12)$$

3 Should One Prefer Rewards to Punishments?

Studies differ whether rewards are better than punishments to make activists' campaigns more successful. While positive information seem to have a greater impact on consumers' choices to take part in political consumerism (Bougherara and Combris, 2009; Disdier and Marette, 2010), harming campaigns (based on bad news) can also appear as more effective strategies than rewarding firms especially if we consider funds and public support as necessary driving forces to run and renew activists' campaigns. Also, by considering bargaining game as part of activists' strategies, activists' threat of harm can strengthen their bargaining position against firms and increase their probability of a successful campaign. Confronted with tough demands, firms can even be encouraged to develop proactive practices to avoid being targeted (Baron, 2001; Baron and Diermeier, 2007). However, the effects of each piece of information, positive or negative, may be interpreted differently depending on whether we focus on northern consumers and activists or on the southern workers and the targeted firm. Here, we particularly observe the consequences of boycott and buycott differently by focusing on their effects on prices, wages and scope of quality differentiation in the North and the South.

3.1 Boycott vs Buycott in this Model.

The basic model described before may capture the impact of variations in consumers' social consciousness on prices, wages and qualities. Each of these variations in consumers' social consciousness can be related either to a boycott of the southern tainted good or a buycott of the northern non tainted good. Following Garcia-Gallego and Georgantzis (2009), we identify two types of activism through these changes in consumers' social consciousness.

- i) An increase in δ_m (the *heterogeneity-reducing* case) will be a targeted activism aimed at awakening consumers' social awareness and reducing the consumers' WTP for the southern good. It is Case 3 from Figure 3: a part of the consumers who purchased the southern good (at the bottom of the distribution) will be uniformly distributed on a segment of higher

⁵See Appendix A.2

WTPs while keeping a total-mass-preserving scheme in the distribution. Boycott implies a reduction of the extent of consumers' WTP which corresponds in our model to an increase in the lower bound δ_m . By increasing the lower bound some of the consumers will mechanically stop buying the tainted good and the dispersion among consumers who will still purchase the tainted good will decrease.

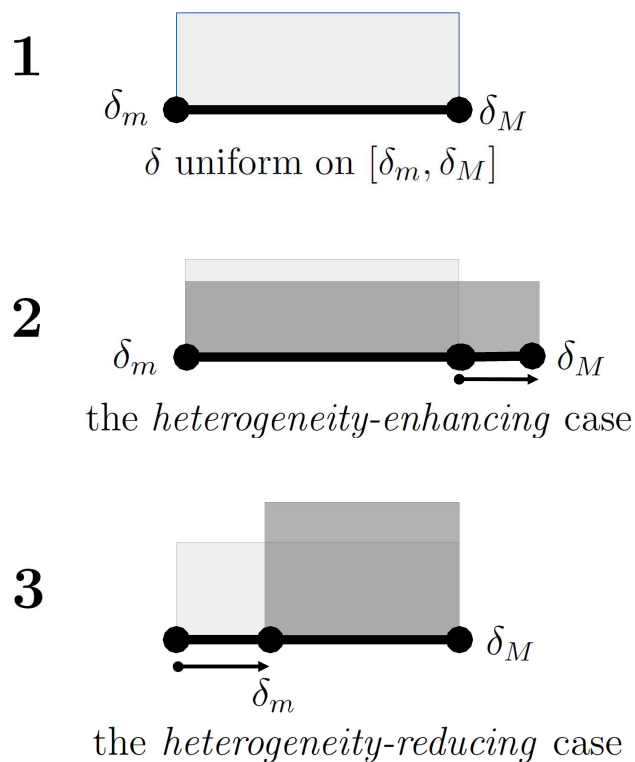


Figure 3: **Illustrative Distributions of Consumer's Social Consciousness.** We assume that every consumer who considers buying a tainted good discounts his utility by a factor δ that is uniformly distributed between a *minimum* value δ_m and some maximum $\delta_M < 1$. Case 1 is a benchmark at an inceptive stage. Case 2 is the boycott; it corresponds to a δ_M increase *ie* the *heterogeneity-enhancing* case. Case 3 is the boycott; it implies a δ_m increase *ie* the *heterogeneity-reducing* case

- ii) An increase in δ_M (the *heterogeneity-enhancing* case) will be a targeted activism aimed at increasing the consumers' WTP for the northern good. It is Case 2 from Figure 3: a part of the consumers who were distributed along the distribution (not necessarily at the bottom) will extend the top of the distribution to be split into it. Boycotts are used to encourage consumers to purchase goods which are associated with positive information (child-labor free, cruelty-free, fair trade products or participation in *Made in* campaigns for example). Then boycott may be seen as a supplementary WTP (a reward) for the non tainted good that mechanically increases the dispersion among consumers.

3.2 Effects of Activism on Prices

Boycott and buycott produce opposite effects on prices when δ_m or δ_M increases, demands are subjected to two opposing effects. The first one implies that consumers' activism transfers demand from the second (the southern tainted good) to the first product (the northern one) with constant prices. This transfer of demand can be viewed as the intuitive effect of the activism against the tainted good. The second effect comes from the price game. From Eqs. (5 - 6b) and Figure 4, we assert that

- a δ_m increase modifies both margins and prices:

$$\frac{\partial p_i^p}{\partial \delta_m} = \begin{cases} -\frac{q_2}{3} \leq 0 & \text{if } i = 1, \\ -\frac{2q_2}{3} \leq 0 & \text{if } i = 2. \end{cases} \quad (13a)$$

More precisely the second margin (and then the second price) drops twice as much as the first one which favors the second demand.

- Symmetrically a δ_M increase modifies prices such that,

$$\frac{\partial p_i^p}{\partial \delta_M} = \begin{cases} \frac{2q_2}{3} \geq 0 & \text{if } i = 1, \\ \frac{q_2}{3} \geq 0 & \text{if } i = 2. \end{cases} \quad (14a)$$

The first price (and then the first margin) increases twice as much as the second one which favors the second demand too.

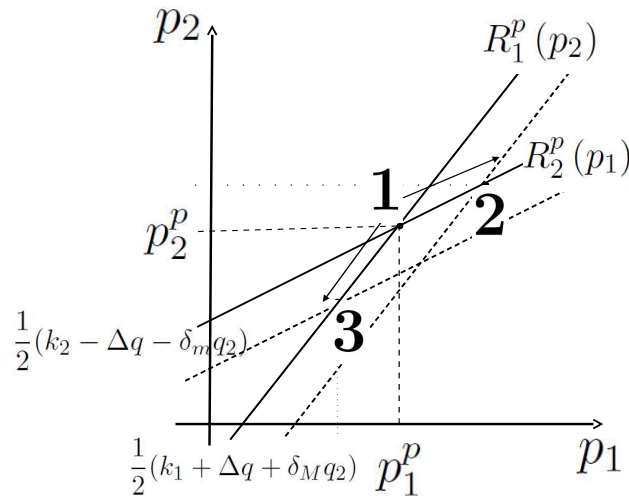


Figure 4: **Illustrative Price Reaction Functions with two Types of Change in Consumer's Social Consciousness.** In the space of prices (p_1, p_2) a δ_M increase (the *heterogeneity-enhancing* case) implies a move $R_1^p(p_2)$ (Eq. (4a)) to the right from 1 to 2. This implies an increase of both prices. On the contrary δ_m increase (the *heterogeneity-reducing* case) shifts $R_2^p(p_1)$ (Eq. (4b)) downward from 1 to 3 what induces a decrease of both prices at the equilibrium.

Proposition 3.1 *In the international duopoly model described Section 2, at the interior price equilibrium with exogenous wages and qualities (Condition 2.2 is satisfied),*

► *boycott from the North (δ_m increase) which decreases the heterogeneity of the consumers' willingness to pay implies that the southern price drops twice as much as the northern one. This price effect attenuates or even reverses the transfer of demand (decrease in demand addressed to the southern firm and increase in demand addressed to the northern firm) related to the stronger activism of the northern consumers.*

► *boycott from the North (δ_M increase) which increases the heterogeneity of the consumers' willingness to pay implies that the northern price increases twice as much as the southern one. This price effect attenuates or even reverses the transfer of demand (decrease in demand addressed to the southern firm and increase in demand addressed to the northern firm) related to the stronger activism of the northern consumers.*

The boycott prevents some consumers from buying the tainted good, which explains the decrease in prices. Many articles note this price decrease following the introduction of a boycott. For example, Rock (2003) studies anti-sweatshop movement and its impact on the American consumers' consciousness. He finds that public disclosure of firms' sweatshop practices improve consumers' consciousness and causes prices to fall. Pruitt and Friedman (1986) also analyzed twenty one American boycotts between 1971 and 1981 and he found that these boycott announcements were followed by decreases in prices for the target firms' goods. Boycott also decreases the dispersion of consumers' willingness to pay for the tainted good compared to the non-tainted one which go hand in hand with a rise in the price elasticity (Johnson and Myatt, 2006). The southern firm can be constrained to implement price discounts to keep a part of the demand. And if the price effect exceeds the demand effect, we can observe a boycott backfire. Indeed, Doremus, Hamilton and Richards (2018) have measured the effect of a consumer boycott on the price and the demand of microbeaded toothpastes and find that during the boycott period consumer demand decreased for microbeaded products relative to non beaded ones and became more elastic, as dispersion lowered between consumers, forcing firms to offer price discounts.

Unlike the boycott, there is a seldom literature on the effects of boycotts on southern populations. However, we know that consumers who start boycotting are willing to pay more for non-tainted goods and the way they are produced (Davies , 2005). These consumers' behaviors allow firms to create niches. Indeed, if all consumers agree over northern good characteristics, they differ in their willingness to pay for it. Firms' niche strategy is then to satisfy consumers whose willingness to pay for the northern good is high (high dispersion) in order to differentiate from others firms and increase their prices and profits (Johnson and Myatt, 2006). As competition between non-tainted firms and tainted firms is relieved, both firms have higher profits. Considering fair trade certifications as boycotts, Dragasanu and Nunn (2018) have estimated, using a panel data analysis, an increase in coffee prices both for exports and on domestic market during the period 1999 to 2014, in Costa Rica, due to fair trade cooperatives.

3.3 Effects of Activism on Wages

We can observe the impact of a boycott on wages as well. Prices are endogenous and qualities are exogenous. From Eq. (8) routine calculations show that both wages will decrease with boycott

$$\frac{\partial w_i^w}{\partial \delta_m} = \begin{cases} -\frac{\alpha_1(1+\alpha_2)}{4-\alpha_1\alpha_2}q_2 \leq 0 & \text{if } i = 1, \\ -\frac{(4+\alpha_1)\alpha_2}{4-\alpha_1\alpha_2}q_2 \leq 0 & \text{if } i = 2, \end{cases} \quad (15a)$$

$$\frac{\partial w_i^w}{\partial \delta_M} = \begin{cases} \frac{\alpha_1(4+\alpha_2)}{4-\alpha_1\alpha_2}q_2 \geq 0 & \text{if } i = 1, \\ \frac{2(1+\alpha_1)\alpha_2}{4-\alpha_1\alpha_2}q_2 \geq 0 & \text{if } i = 2. \end{cases} \quad (16a)$$

Proposition 3.2 *In the international duopoly model described Section 2, at the interior price and wage equilibria (Condition 2.3 is satisfied) with exogenous qualities,*

► *boycott from the North (δ_m increases) implies that both wages decrease and the southern one drops more than the northern one.*

► *buycott from the North (δ_M increases) implies that both wages increases and the northern ones raises more than the southern one.*

The overall evidence of northern activism's effects on the southern working conditions is mixed: workers in the South and activists obtain short term gains - increasing wages and better working conditions - but these gains are often reversed in the long run because targeted firms close down (Harrison and Scorse, 2010). Here, our model distinguishes two potential effects of the activism. A consumer boycott decreases southern wages by decreasing northern willingness to pay without changing southern firm's behavior. This effect is similar to that of firm closure. The positive effect described by Harrison and Scorse (2010) may be related to the stronger bargaining power (α_2 increases). Boycotts increase southern wage quite differently in our model. Actually it favors northern (non tainted) good through an increasing WTP for it. This activism relaxes price competition and it permits both prices and then both wages to increase.

3.4 Effects of Activism on Qualities

If we observe the effects of boycott and buycott on southern quality we have some original supplementary results. Actually, the first quality is unchanged whereas the second one is decreasing with the boycott and increasing with the buycott:

$$\frac{\partial q_2^q}{\partial \delta_m} = -\frac{\partial h_2}{\partial \delta_m} \frac{1 - \frac{1-h_2}{\sqrt{\frac{3c_2}{c_1} + (1-h_2)^2}}}{6c_2} < 0, \quad (17)$$

since $\frac{\partial h_2}{\partial \delta_m} > 0$ and $(1 - h_2) < \sqrt{\frac{3c_2}{c_1} + (1 - h_2)^2}$;

and

$$\frac{\partial q_2^q}{\partial \delta_M} = -\frac{\partial h_2}{\partial \delta_M} \frac{1 - \frac{1-h_2}{\sqrt{\frac{3c_2}{c_1} + (1-h_2)^2}}}{6c_2} > 0, \quad (18)$$

since $\frac{\partial h_2}{\partial \delta_M} < 0$ and $(1 - h_2) < \sqrt{\frac{3c_2}{c_1} + (1 - h_2)^2}$.

Proposition 3.3 *In the international duopoly model described Section 2, at the interior price, wage and quality equilibria (Condition 2.5 is satisfied)*

- ▶ a boycott (δ_m increases) of the tainted good decreases its quality
- ▶ a boycott (δ_M increases) of the non tainted good increases the quality of the tainted good.

To some extent, our results seem to reflect consumers' beliefs concerning the quality of boycotted and buycotted products. On one side, boycotted goods are associated to bad news and a low perceived quality encouraging consumers to avoid buying this good (Koenig and Poncet, 2018). Then, mechanically a lower demand induces a decrease in profits which leave little room to improve products quality. On the other side, buycotted goods can enjoy a higher perceived quality in consumers' beliefs translating into an increase in consumers' WTP and finally in the observed quality of the good. As both firms differentiate, southern firm can also increase its profit and be better off improving the quality of its good.

4 Northern Activism and Southern Welfare

We aim now to consider the impact of a change in δ_m (boycott) and δ_M (buycott) on southern welfare. As a buycott increases both prices, wages and qualities unlike the boycott which has opposite effects, we can imagine southern welfare increases in the first case but decreases due to the boycott. If some of the effects of activism are direct, others are perceptible only over time. More precisely, while prices adjust more directly, the adjustment of wages and qualities takes longer. For this reason, we opt for a short, medium and long term approach of the effects of activism on southern welfare which correspond respectively to the price, wage and quality equilibria. To make the model even more tractable in this part, we assume without loss of generality that northern workers' bargaining power is bound to the unity.

In our model, southern welfare is the sum of the southern firm's profit and workers' wages seen as an expression of southern workers' utility (Lopez and Naylor, 2002; Straume, 2002; Bacchiega and Minniti, 2015). The expression of southern welfare is defined as follows, with $\tau = p, w, q$, which respectively correspond to the price, wage and quality equilibria, redefined as a short, medium and long term approach

$$W^\tau \stackrel{\text{def.}}{=} \Pi_2^\tau + w_2^\tau D_2^\tau \quad (19)$$

Then, we derive the expression above by δ_j (with $j = m, M$). The impact of activism on southern welfare can be decomposed into two effects

$$\frac{\partial W^\tau}{\partial \delta_j} = \left(\frac{\partial p_2^\tau}{\partial \delta_j} - 2c_2 \frac{\partial q_2^\tau}{\partial \delta_j} \right) D_2 + (p_2 - c_2 q_2^2) \frac{\partial D_2^\tau}{\partial \delta_j}$$

margin effect + demand effect,

since activism plays on demands and margins. As one might expect, the mechanism behind the negative demand effect is that successful boycotts and buycotts reduce the demand for the southern good, there is a transfer of demand from the southern (tainted) good to the northern (non tainted) one (Baron and Diermeier, 2007). We propose now summarizing the effects of a boycott and a buycott on southern welfare considering both the negative demand effect and the margin effect

τ	p		w		q	
	Margin Effect	Demand Effect	Margin Effect	Demand Effect	Margin Effect	Demand Effect
$\frac{\partial W^\tau}{\partial \delta_m}$	(-)	(-)	(-)	(-)	(-)	(-)
$\frac{\partial W^\tau}{\partial \delta_M}$	(+)	(-)	(+)	(-)	(+)	(-)

Figure 5: **The Effects of Successful Activism on Southern Welfare** At each stage ($\tau = p, w, q$) we present the effects of activism δ_j ($j = m, M$) on southern welfare. While an increase in δ_m reduces both demand and margin and decreases welfare, an increase in δ_M presents an uncertainty concerning the effect on welfare as it draws a parallel between a positive margin effect and a negative demand effect.

We observe a boycott implies both a negative demand and margin effect resulting in a decrease in southern welfare. The negative demand effect is related to the way in which northern consumers reacts to a boycott of Firm 2 which forces the southern firm to lower its margin. This intuition clearly holds at the price and wage equilibria, but there is an uncertainty concerning the effect of a unit decrease in q_2 which lowers the cost and possibly increases margin at the quality stage. Then, the effects of a buycott on welfare are much less tangible as there is a positive margin effect, a buycott of the northern good increases both margins, and a negative demand effect, which leads to an uncertainty concerning the effect on southern welfare. Moreover, as the boycott, there exists another uncertainty at the quality stage, a unit increase in q_2 increases production costs which can decrease margin.

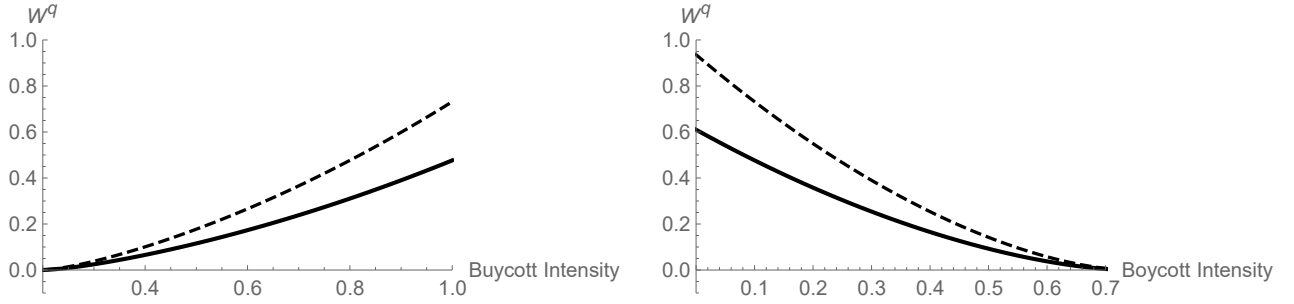


Figure 6: Boycott, Buycott and Southern Welfare at the Quality Equilibrium The situation described by these graph holds for a set of plausible parameters. A possible case is for $\delta_m = 0.1$, $\delta_M = 1$, for $c_1 = 0.5$, $c_2 = 0.8$ as producing a higher quality is more expensive in the South, and, to compare different levels of welfare according to southern bargaining power, we have defined $\alpha_2 = 0.1$, and, $\alpha_2 = 0.8$ represented by the dashed lines . The first graph shows that an increase in the boycott intensity is related to higher levels of welfare. A rise in δ_m decreases the heterogeneity between consumers and moves the field of possibilities rightward associated with higher levels of welfare. The second graph reveals the higher the boycott intensity, the lower southern welfare. A decrease in δ_M reduces the heterogeneity between consumers and moves the field of possibilities leftward associated with higher levels of welfare. Considering the effect of activism on welfare under different levels of southern bargaining power, a higher bargaining power α_2 implies a higher level of welfare in both situations.

This figure shows that for a range of plausible parameters, at the quality stage, while a boycott increases southern welfare, a buycott decreases it. We can presume that if at the quality level, the boycott (the buycott) decreases (increases) southern welfare, all the previous uncertainties are removed. It means at each stage a boycott implies a negative demand and margin effect, and a buycott, a positive margin effect and a negative demand effect, the margin effect exceeding the demand one.

Proposition 4.1 *In the international duopoly model described Section 2, at each stage (Condition 2.5 is satisfied) and for a set of plausible parameters, while a boycott decreases southern welfare, a buycott increases it.*

5 Concluding Remarks

We have presented a theoretical framework which explains how consumers' social consciousness affects endogeneous prices, wages, qualities and welfare using a Bertrand-type duopoly model by assuming that all consumers derive the same utility from one ("northern") good but are heterogeneous with regards to the other ("southern") good. A higher consumers' social consciousness can be seen as a punishment for the southern tainted good (boycott) or a reward for the northern non tainted one (buycott). In our model, we consider changes in consumers' heterogeneity, i.e. the *heterogeneity-reducing* case and the *heterogeneity-enhancing* case, correspond to a boycott and

a boycott respectively. Our main results show that boycott and boycott have opposite effects on prices, wages and qualities, a boycott strategy seeming better for both firms and workers. Considering a successful boycott or boycott as an activism which reduces the demand for the southern good, we conclude that while a boycott unambiguously reduces both prices, wages and qualities as well as southern welfare, a boycott conversely increases prices, wages, qualities and southern welfare. In other words, an activism based on positive information is still better than an activism based on bad ones. In our study, we mainly focus on the effects of northern activism on southern welfare. A further interesting study may be to observe more precisely and discuss the effects of an increase in southern social consciousness through the reinforcement of southern workers' bargaining power. An activism which comes from the South is maybe more effective to improve southern welfare than a northern one whether it is based on a positive or a negative information.

A Appendix

A.1 Wage Equilibria

Setting to zero the derivatives $\frac{\partial G_i}{\partial w_i}$ of the G_i 's in (7) yields the system of equations

$$\begin{cases} \frac{\partial G_1}{\partial w_1} = G_1 \left(\frac{2 - \alpha_1}{\Delta c - \Delta q + q_2(\delta_m - 2\delta_M) + w_1 - w_2} + \frac{\alpha_1}{w_1} \right) = 0 \\ \frac{\partial G_2}{\partial w_2} = G_2 \left(\frac{2 - \alpha_2}{\Delta c - \Delta q + q_2(\delta_M - 2\delta_m) + w_1 - w_2} - \frac{\alpha_2}{w_2} \right) = 0. \end{cases} \quad (20a) \quad (20b)$$

For $G_i > 0$, solutions w_1^w and w_2^w are given in Eq. (8) below. Second order conditions are easily checked.

$$\begin{pmatrix} w_1^w(q_1, q_2) \\ w_2^w(q_1, q_2) \end{pmatrix} = \frac{1}{4 - \alpha_1 \alpha_2} \begin{pmatrix} \alpha_1((\Delta q - \Delta c)(2 - \alpha_2) + q_2(\delta_M(4 + \alpha_2) - 2\delta_m(1 + \alpha_2))) \\ -\alpha_2((\Delta q - \Delta c)(2 - \alpha_1) + q_2(\delta_m(4 + \alpha_1) - 2\delta_M(1 + \alpha_1))) \end{pmatrix}. \quad (21)$$

A.2 Quality Equilibria

$$\Pi_i^w = q_i (\delta_M - \delta_m) (D_i^w)^2 \quad (22)$$

$$\frac{\partial \Pi_i^w}{\partial q_i} = (D_i^w)^2 (\delta_M - \delta_m) + 2q_i \delta_M - \delta_m \frac{\partial D_i^w}{\partial q_i} D_i^w \quad (23)$$

If we assume that both demands are positive at wage equilibria then the first order condition can be written as follows:

$$\frac{\partial \Pi_i^w}{\partial q_i} = 0 \Leftrightarrow \frac{\partial D_i^w}{\partial q_i} = -\frac{1}{2q_i}. \quad (24)$$

The only positive equilibria are then:

$$\begin{pmatrix} q_1^q \\ q_2^q \end{pmatrix} = \begin{pmatrix} \frac{1}{2c_1} \\ \left(1 - \frac{\delta_m(4 + \alpha_1) - 2\delta_M(1 + \alpha_1)}{2 - \alpha_1}\right) + \sqrt{\left(1 - \frac{\delta_m(4 + \alpha_1) - 2\delta_M(1 + \alpha_1)}{2 - \alpha_1}\right)^2 + 3\frac{c_1}{c_2}} \end{pmatrix} \cdot \frac{1}{6c_2} \quad (25)$$

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