

Amegashie, J. Atsu

Working Paper

Socially-tolerable discrimination

CESifo Working Paper, No. 2292

Provided in Cooperation with:

Ifo Institute – Leibniz Institute for Economic Research at the University of Munich

Suggested Citation: Amegashie, J. Atsu (2008) : Socially-tolerable discrimination, CESifo Working Paper, No. 2292, Center for Economic Studies and ifo Institute (CESifo), Munich

This Version is available at:

<https://hdl.handle.net/10419/26337>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

Socially-Tolerable Discrimination

J. ATSU AMEGASHIE

CESIFO WORKING PAPER NO. 2292

CATEGORY 2: PUBLIC CHOICE

APRIL 2008

An electronic version of the paper may be downloaded

- *from the SSRN website:* www.SSRN.com
- *from the RePEc website:* www.RePEc.org
- *from the CESifo website:* www.CESifo-group.org/wp

Socially-Tolerable Discrimination

Abstract

History is replete with overt discrimination on the basis of race, gender, age, citizenship, ethnicity, marital status, academic performance, health status, volume of market transactions, religion, sexual orientation, etc. However, these forms of discrimination are *not equally* tolerable. For example, discrimination based on immutable or prohibitively unalterable characteristics such as race, gender, or ethnicity is much less acceptable. Why? I develop a simple rent-seeking model of conflict which is driven by either racial (gender or ethnic) discrimination or generational discrimination (i.e., young versus old). When the conflicts are mutually exclusive, I find that racial discrimination is socially intolerable for a much *wider range* of parameter values relative to generational discrimination. When they are *not* mutually exclusive, I find that racial discrimination can be socially intolerable while generational discrimination is socially tolerable. The converse is not true. My results are *not* driven by a stronger intrinsic aversion to discrimination on the basis of immutable characteristics. I am able to explain why some forms of discrimination (e.g., racism) are much less tolerable than other forms of discrimination (e.g., age discrimination) without making any value judgements about either form of discrimination.

JEL Code: D72, D74, K41.

Keywords: conflict, contest, discrimination, race, generation, rent-seeking.

J. Atsu Amegashie
Department of Economics
University of Guelph
Guelph, Ontario
Canada N1G 2W1
jamegash@uoguelph.ca

April 20, 2008

I thank the Social Sciences and Humanities Research Council of Canada for financial support.

1. Introduction

History is replete with overt discrimination on the basis of race, gender, age, ethnicity, material status, citizenship, academic achievement, health status, volume of market transactions, religion, sexual orientation, etc. However, these forms of discrimination are not equally tolerable. Discrimination based on immutable or prohibitively unalterable characteristics (e.g., race or gender) is less acceptable than those based on alterable or non-permanent characteristics (e.g., age and academic achievements).¹ In his justification of age discrimination, Swift (2006, p. 231) notes that "... age discrimination legislation does not seek to address the difficulties faced by a discrete group identified by some fixed quality. We are all people 'of age' and in the course of life it is likely that everyone will encounter the benefits and detriments of age ..."²

Some discrimination may be politically feasible or tolerable because the group that is the target of perceived discrimination may accept it on account of religious or cultural beliefs. Hence what is considered discriminatory may be debatable. In the same vein whether a characteristic is immutable or not is debatable. For example, the Harvard Law Review (1969, p. 1167) observed that "... some elements such as social class ... though in theory neither hereditary nor unchangeable in the sense that race is, may in fact depend very much on the luck of birth and may often be changed only with

¹On this point, the Harvard Law Review (1969, p. 1126-1127) observed that "... race and lineage are congenital and unalterable traits over which an individual has no control and for which he should not receive neither blame nor reward. ... This theory may explain why classifications based on alienage – a legal status generally subject to change – and on poverty have received more lenient treatment than those based on race."

² This thinking is similar to the thinking of a majority poor which does not vote for massive redistribution because of the prospect of moving up the economic ladder (Benabou and Ok, 2001).

difficulty.”³

To be sure, the tolerance of discrimination depends on legal, philosophical, political, and socio-economic factors. As Balkin (1997, p. 2314-2315) notes “... social groups ... compete with each other for social esteem and material resource, for privilege and prestige ... the constitution is committed to the realization of a democratic culture (i.e., *equal protection*), even though constitutional law – and indeed, law generally – cannot realize this goal by its own efforts. Large-scale changes in social structure require social transformation over long periods of time, and law forms only a part of that phenomenon.” Parenthesis and italics mine.

In this paper, I examine the tolerance for different forms of discrimination from a political-economy point of view as opposed to a legal or philosophical point of view. Yet since politics is interwoven with the law, this distinction need not be clear-cut. This is consistent with Balkin’s (1997, p. 2315) argument that to “...understand the Constitution’s proper role in foraging a democratic culture, we must understand ... how social groups struggle for power and status ...” I shall return to this point in section 3.

I develop a simple model where conflict arises because of either racial (gender) discrimination or generational discrimination (i.e., young versus old). When racial conflict and generational conflict are mutually exclusive, I find that racial discrimination is socially intolerable for a much *wider range* of parameter values relative to generational discrimination. When they are *not* mutually exclusive, I find that there are parameter values for which racial discrimination is socially intolerable (i.e., salient) but generational

³ As another example, even though one could convert from Christianity to Islam or Judaism or from being a Sunni to being a Shia, such conversion could be prohibitively costly or impossible for several people since it requires the renunciation of certain fundamental beliefs. Balkin (1997) criticizes the use of immutability as a basis for judging discrimination. I return to this point in section 4.

discrimination is socially tolerable. In contrast, there are *no* parameter values for which the converse is true. My results are not driven by a stronger *intrinsic* distaste for discrimination on the basis of immutable characteristics. I am able to explain why some forms of discrimination (e.g., racism) are much less tolerable than other forms of discrimination (e.g., age discrimination) without making any value judgements about either form of discrimination.

My paper is related to Esteban and Ray (2008).⁴ In their paper, individuals are grouped according to ethnicity and class (rich or poor). Conflict can erupt along ethnic or class dimensions but not both. Under reasonable parameter values, they find that ethnic conflict is more likely than class conflict. The intuition for this result is the necessity of a complementarity between financial capital and conflict labor in the production of effective conflict activity. Financial capital is relatively cheaper for the rich to provide and conflict labor is relatively cheaper for the poor to provide. This comparative advantage between the rich and the poor exists among ethnic groups since there are rich and poor people in this group but is not available within economic classes. This leads to the surprising result that class conflict is less likely than ethnic conflict when there is more inequality between the rich and poor.

However, my paper differs from Esteban and Ray (2008) in the following respects.⁵ First, in Esteban and Ray (2008), the dimensions (i.e., ethnicity and class) along which individuals are classified are permanent. In my case, there is one dimension

⁴ See also Robinson (2001).

⁵ Basu (2005) considers an incomplete-information model where racial conflict arises because people use aggregate information about an individual's race to form judgements about the behavior of that individual. In his model, there is only one marker (e.g., race) which is a possible source of conflict, so he does not address the relative tolerance for different forms of discrimination. Besides, my model has no incomplete information.

(i.e., age) which is not permanent. Second, my paper examines a different social phenomenon namely the relative tolerance of different forms of discrimination.⁶ Third, in Esteban and Ray (2008), success or failure in the class (ethnic) conflict does not affect an individual's status-quo ethnic (class) payoff. In my model, success in the racial conflict affects payoffs on the generational dimension. Fourth, I use a different conflict success function. Fifth, I allow for the possibility that the conflicts may not be mutually exclusive. Finally, the intuition behind my results is different from Esteban and Ray (2008).

The next section presents a model of racial and generational conflict that is fuelled by racial and generational discrimination. The conflicts are assumed to be mutually exclusive. Section 3 considers the case of non-mutually exclusive conflicts. Section 4 discusses the results and extensions. Section 5 concludes the paper.

2. A model of racial and generational conflict

Consider a society with an overlapping generation structure. In each period, there are $2N$ blacks and $2N$ whites who are either young or old. The young and old are equally divided within each race.⁷ Each agent lives for only two periods, and discounts the future at the rate, δ , where $0 \leq \delta \leq 1$.⁸ Each young person, regardless of race, is endowed with Ω

⁶ To the extent that the allocation of resources based on class or ethnicity is discriminatory, Ray and Esteban (2008) also study the relative tolerance of different forms of discrimination. However, unlike the discussion in section 4, what drives their result is not the overarching effect of discrimination based on immutable characteristics. This is because, in their model, both characteristics (i.e., class and ethnicity) are immutable or permanent.

⁷The analysis remains unchanged if race is replaced with gender or ethnicity. Indeed, I sometimes use race, gender, and ethnicity interchangeably.

⁸ This discount factor is analytically equivalent to the probability that a young person will survive into old age.

> 0 units of capital which translates into Ω units of output.⁹ Each young person is taxed at the rate of t per unit of output, where $0 < t < 1$. Due to racial discrimination, old whites receive a transfer of T units of output while old blacks receive nothing. Notice also that there is generational discrimination since the young do not receive any transfers. In the status quo, budget balance requires that $2t\Omega N = NT$. So each old white receives $T^* = 2t\Omega$. I assume that the status-quo tax rate, t , is not affected by a change in the status quo as a result of racial conflict. This is similar to Esteban and Ray's (2008) assumption that the size of the ethnic and class budgets (in their model) is not affected by ethnic or class conflict. However, in a generational conflict (as modeled below), there will be no taxes if the young are successful because there will no longer be transfers to the old.

The simple model described above is one in which race and age determine the distribution of a fixed surplus or rent whose size is $2t\Omega N$.¹⁰ Indeed, any form of discrimination can be seen as a way of distributing rents.¹¹ Efforts in a racial or generational conflict are basically rent-seeking attempts to change or maintain the discriminatory status quo.

When conflict erupts, it may take the form of lobbying, riots, demonstrations, political activism, litigation, or violence. As in Acemoglu and Robinson (2000) and Esteban and Ray (2008), I assume that each group in the conflict solves the free-rider problem, so there is a group leader who chooses group effort in the conflict.

As in Esteban and Ray (2008), I assume that if one form of conflict occurs, then the other cannot occur. Methodologically, this appears to be the right assumption to make

⁹ As discussed in section 4, differential endowment of capital according to race will not affect my results. It will rather strengthen it.

¹⁰In Esteban and Ray (2008), this fixed surplus or rent is equal to the sum of the ethnic and class budgets.

¹¹In a model with human capital or physical capital investment, discrimination *per se* could affect the size of the rent or surplus (see, for example, Coate and Loury, 1993).

because it makes it easy to focus on the relative salience of each form of discrimination in generating conflict. However, I relax it later in the paper.

A racial conflict, if it occurs, *precedes* race-based transfers and taxes. Similarly, a generational conflict, if it occurs, *precedes* age-based transfers and taxes. This makes sense since there is no point in engaging in conflict if either the tax or transfer policy or both cannot be changed.

I assume that there are no racial conflicts after the end of racism (i.e., after blacks are successful in a racial conflict). Similarly, there are no subsequent generational conflicts if the young are successful in a generational conflict.

The timing of actions is as follows:

Stage 1: Alliances may form (or not form) along racial or generational lines.

Stage 2: Each side adopts a “hostile” or “peaceful” stance. If either side is hostile, they receive conflict payoffs. Otherwise, they receive “peace payoffs”.

2.1 Racial conflict

Looking ahead an alliance will only form if the alliance intends to adopt a hostile attitude. I solve the game backwards beginning in stage 2. Note that stage 1 is trivial because I do not present a model of alliance formation. I simply assume that alliances form if either party wants to adopt a hostile stance.

Let E_b and E_w be the aggregate effort of blacks and whites in a racial conflict. Let P_b and P_w be the conflict success probabilities of blacks and whites respectively. I

assume that the conflict success function is of the ratio-form, $P_b = \frac{E_b + \eta}{E_b + E_w + 2\eta}$ and

$$P_w = \frac{E_w + \eta}{E_b + E_w + 2\eta}, \text{ where } \eta \geq 0 \text{ is positive parameter which captures the extent to}$$

which the conflict technology or the politico-legal institutions are sensitive to rent-seeking effort (i.e., lobbying, litigation, riots, etc).¹² Status-quo racism prevails if

$$E_w = E_b = 0.$$

Without loss of generality, I set $N = 1$. If blacks are successful in a racial conflict,¹³ then each old black gets a transfer of $T_b^* = t\Omega$.¹⁴ So the *total* valuation of old and young blacks is $T_b^* + \delta T_b^* = (1 + \delta)t\Omega$. In the context of the US civil rights movement, this may be seen as a simple way of capturing the benefits of the right to vote,¹⁵ the abolition of slavery or desegregation.¹⁶ Each old white loses transfer payments of $T^* - T_b^* = t\Omega$. So the *total* valuation of young and old whites is $(1 + \delta)t\Omega$.

The two groups play a simultaneous-move game with complete-information. The leader of group i chooses E_i to maximize¹⁷

$$\Pi_i = \frac{E_i + \eta}{E_b + E_w + 2\eta} (1 + \delta)t\Omega - E_i, \quad (1)$$

$$i = b, w.$$

¹²Esteban and Ray (2008) assume that $\eta = 0$. See Amegashie (2006) for a discussion of the case of $\eta > 0$. The ratio-form contest success function has been axiomatized in Skaperdas (1996) and given micro-foundations in Fullerton and McAfee (1999) and Baye and Hoppe (2003).

¹³My model is a simplification of the historical evidence since there were whites involved in the civil rights movements in, for example, the USA and South Africa. For simplicity, I assume that there are no crossovers by either race in the racial conflict. For a proposal of such crossover in the context of discrimination against homosexuals, see Ayres and Brown (2005).

¹⁴ Given that the tax rate is fixed and there are now twice the number of old people eligible for transfers, each old person gets a transfer of $T^*/2$.

¹⁵This is consistent with the view that the extension of voting rights led to the redistribution of resources to disenfranchised groups (e.g., Acemoglu and Robinson (2000)).

¹⁶In an alternative model, this will be the benefits to whites of ending affirmative action.

¹⁷I ignore the savings decision or the intertemporal allocation of $(1 - t)\Omega$ by the young because this has no effect on the analysis.

In a Nash equilibrium, the following pair of inequalities must hold: $\partial\Pi_w/\partial E_w \leq 0$ and $\partial\Pi_b/\partial E_b \leq 0$, with strict equality at an interior solution. The unique equilibrium effort levels¹⁸ are

$$E_b^* = E_w^* = \frac{1}{4}(1 + \delta)t\Omega - \eta > 0, \quad (2)$$

if $0 \leq \eta < \frac{(1 + \delta)t\Omega}{4}$, and

$$E_b^* = E_w^* = 0, \quad (3)$$

if $\eta \geq \frac{(1 + \delta)t\Omega}{4}$.

Hence, there could be racial conflict or no racial conflict depending on the value of η .

2.2 Generational conflict

Another possibility is a conflict between the young and the old (i.e., generational conflict).¹⁹ In this case, all young blacks and young whites join forces and all old blacks and old whites join forces. I follow the same notation above except that I replace the “b” and “w” subscripts with “o” and “y”.

If the young are successful in the conflict, then young whites will no longer pay taxes to support the old. Young blacks gain nothing since they receive no transfers in old age because racial discrimination still exists and their tax obligations is still $t\Omega$. I assume that this tax revenue is equally distributed among whites, so that each white person gets

¹⁸It is easy to see that the equilibrium is unique by defining $X_i = E_i + \eta$. Then group i 's payoff is $\Pi_i = [X_i/(X_b + X_w)](1 + \delta)t\Omega - X_i - \eta$. This formulation shows that the game is the standard Tullock rent-seeking contest which is known to have a unique equilibrium. The main difference is that $\eta > 0$ could lead to an equilibrium with no conflict (Amegashie, 2006).

¹⁹An example of this conflict is socio-political actions by competing groups on ending pay-as-you-go social security programs.

$t\Omega/2$ in transfers. Similarly, if the old are successful, the old blacks gain nothing because they receive no transfers as a result of racial discrimination. Hence, young whites save $t\Omega$ in taxes and get $t\Omega/2$ in transfers.²⁰ But given that racial discrimination exists, young whites lose $2\delta t\Omega$ (i.e., discounted transfer in old age), if they are successful in the conflict. So the valuation of young whites is $(1.5 - 2\delta)t\Omega$. On the other hand, old whites save the transfer of $T^* = 2t\Omega$ if they are successful in a generational conflict. If they lose, they get $t\Omega/2$. Hence their valuation of success in the conflict is $1.5t\Omega$.²¹

From the preceding discussion, it follows that both old and young blacks will not participate in a generational conflict. Hence, the leader of the old group chooses E_o to maximize

$$\Pi_o = \frac{E_o + \eta}{E_o + E_y + 2\eta} 1.5t\Omega + 0.5t\Omega - E_o, \quad (4)$$

and the leader of the young group chooses E_y to maximize

$$\Pi_y = \frac{E_y + \eta}{E_o + E_y + 2\eta} (1.5 - 2\delta)t\Omega - E_y. \quad (5)$$

Note that since the status-quo favors the old, they will not initiate a conflict. However, the young might initiate a generational conflict.²²

Suppose $\delta \geq 0.75$, then there is no generational conflict since young whites have a zero or negative valuation. That is, status-quo age discrimination prevails given

$$E_o = E_y = 0.$$

²⁰ This transfer and previous ones in this model simply reflect the fact that discrimination has redistributive effects. They are not intended to make any statements about any group's work ethic.

²¹ In an alternative model of age discrimination such as mandatory retirement, these valuations could be modified to capture the benefits of ending or keeping mandatory retirement.

²² Similarly, it is blacks who have the incentive to initiate a racial conflict. The use of the word "initiate" suggests that the game is sequential, although it is a simultaneous-move game. While a change in the timing of moves will not affect my results, it is important to note that a sequential-move interpretation or analysis of the game will not affect the equilibria obtained, so long as the second-mover does not observe the actions of the first-mover before s/he (i.e., the second-mover) takes his/her action.

Suppose $0 \leq \delta < 0.75$ and $E_o = 0$. Then $\partial \Pi_y / \partial E_y \leq 0$ for all $E_y \geq 0$ if

$\eta \geq \frac{(1.5 - 2\delta)t\Omega}{4}$. So the unique equilibrium is

$$E_y^* = E_o^* = 0 \quad (6)$$

if $\eta \geq \frac{(1.5 - 2\delta)t\Omega}{4}$.

Now suppose $\eta < \frac{(1.5 - 2\delta)t\Omega}{4}$ and $0 \leq \delta < 0.75$. Then an equilibrium where both factions exert positive effort levels must satisfy $\partial \Pi_y / \partial E_y = 0$ and $\partial \Pi_o / \partial E_o = 0$. This gives

$$E_o^{**} = \frac{(1.5t\Omega)^2(1.5 - 2\delta)t\Omega}{(1.5t\Omega + (1.5 - 2\delta)t\Omega)^2} - \eta = \frac{2.25(1.5 - 2\delta)t\Omega}{(3 - 2\delta)^2} - \eta, \quad (7)$$

and

$$E_y^{**} = \frac{1.5t\Omega((1.5 - 2\delta)t\Omega)^2}{(1.5t\Omega + (1.5 - 2\delta)t\Omega)^2} - \eta = \frac{1.5(1.5 - 2\delta)^2 t\Omega}{(3 - 2\delta)^2} - \eta. \quad (8)$$

Note that $\frac{2.25(1.5 - 2\delta)t\Omega}{(3 - 2\delta)^2} \geq \frac{1.5(1.5 - 2\delta)^2 t\Omega}{(3 - 2\delta)^2}$ for $\delta \geq 0$, so $E_y^{**} > 0$ and $E_o^{**} > 0$ requires

$0 < \eta < \frac{1.5(1.5 - 2\delta)^2 t\Omega}{(3 - 2\delta)^2}$. Note that $\frac{1.5(1.5 - 2\delta)^2 t\Omega}{(3 - 2\delta)^2} \leq \frac{(1.5 - 2\delta)t\Omega}{4}$, given $\delta \geq 0$.

2.3 The likelihood of racial conflict and generational conflict: mutually exclusive case

Recall that I assume that if one form of conflict occurs, then the other cannot occur. In what follows, there will be cases where all factions in either conflict have a positive valuation and we want to construct examples where one conflict occurs but the

other does not occur. In such cases, we use sets of the form $S = \{\eta \in \mathfrak{R}_+ : k \leq \eta < m\}$.

Then to ensure that S is non-empty, we require $\sup(S) = m > \inf(S) = k$.

Case 1: Suppose $\delta \geq 0.75$, then generational conflict will *not* occur but a racial conflict will occur if $0 \leq \eta < \frac{(1+\delta)t\Omega}{4}$.

Case 2: Suppose $\delta < 0.75$. A generational conflict will *not* occur but a racial conflict will occur if $\frac{(1.5-2\delta)t\Omega}{4} \leq \eta < \frac{(1+\delta)t\Omega}{4}$. Then we require that

$\frac{(1.5-2\delta)t\Omega}{4} < \frac{(1+\delta)t\Omega}{4}$. This implies that $\delta > 1/6$. It follows that if $\delta > 1/6$, then we can construct examples where a racial conflict occurs but a generational conflict does not occur.

Case 3: Either conflict can occur if $0 \leq \delta < 0.75$ and η is sufficiently close to zero. Since the two conflicts are mutually exclusive, I assume that either conflict can occur with equal probability.

Case 4: A generational conflict will occur but a racial conflict will not occur if $\frac{(1+\delta)t\Omega}{4} \leq \eta < \frac{1.5(1.5-2\delta)^2 t\Omega}{(3-2\delta)^2}$. This requires that $\delta < 0.161$. It follows that if

$\delta < 0.161$, then we can construct an example where generational discrimination is salient.

Case 5: If $0.161 \leq \delta \leq 0.166$, it is not possible to construct an example where one form of discrimination is more salient than the other because the conditions in case 2 and case 4 are violated.

Combining cases 1 and 2 and noting that neither conflict is salient than the other in cases 3 and 5, it follows that racial discrimination is salient than generational

discrimination for a wider range of parameter values (i.e., $1/6 < \delta < 1$).²³ This leads to the following proposition:

Proposition 1: *If racial conflict and generational conflict are mutually exclusive, then racial discrimination is socially intolerable for a much wider range of parameters relative to generational discrimination.*

3. Generational conflict versus racial conflict: the non-mutually exclusive case

Suppose that racial conflict and generational conflict are *not* mutually exclusive. In particular, suppose these conflicts could occur concurrently *but* no individual or group can effectively engage in both conflicts.

To simplify the analysis, I assume that while both conflicts could occur simultaneously, they cannot occur sequentially. This implies that, for example, young blacks do not engage in a racial conflict knowing that if racism were to end, they would later form an alliance with young whites to end age discrimination. Similarly, young whites do not engage in a generational conflict knowing that if age discrimination were to end, they will later form an alliance with old whites to defend racism. I rule out such possibilities because they complicate the analysis.

Notice that while, in principle, both conflicts can occur simultaneously, I shall construct examples where one conflict occurs but the other does not occur. This is consistent with my assumptions because what is feasible (i.e., the conflicts can occur concurrently) need not occur in equilibrium.

²³ Notice though that the restrictions on δ are necessary conditions. In addition, we require restrictions on η as shown in the various cases above.

Since blacks will not participate in a generational conflict, they do not have to worry about choosing between a generational and a racial conflict. So if they do engage in a conflict it will be a racial conflict. Given that no individual can effectively engage in both conflicts, suppose that whites will have a *significantly* weak capability of fighting in a racial conflict if they are engaged in a generational conflict. In particular, suppose whites can exert no effort in a racial conflict, if they are already engaged in a generational conflict. In this case, assume that blacks will win a racial conflict with certainty by exerting a *small* but positive effort.

Note that when a racial conflict is underway, there cannot be a generational conflict. This makes sense given the reasonable assumption that no individual or group can effectively engage in two conflicts. Therefore, given that blacks will not engage in a generational conflict and whites are already engaged in a racial conflict, a generational conflict cannot occur if a racial conflict is already underway. Since blacks can win a racial conflict with certainty by exerting a small but positive effort, a racial conflict will occur with certainty if a generational conflict is underway but the reverse is not true. This strengthens proposition 1 leading to the following proposition:

Proposition 2: *If racial conflict and generational conflict are not mutually exclusive then, under certain assumptions, racial discrimination is socially intolerable (i.e., salient) but generational discrimination is socially tolerable. In contrast, the converse is true.*

An implicit assumption in the previous case was that $\eta = 0$ in the racial conflict success function [i.e., $P_b = E_b/(E_b + E_w)$ and $P_w = E_w/(E_b + E_w)$] if whites are engaged in a generational conflict. This was why blacks could win a racial conflict with certainty by

exerting a small but positive effort given $E_w = 0$. Suppose instead that $\eta > 0$ in the racial conflict success function. Then blacks cannot end racism by exerting a small but positive effort even if whites exert zero effort because they (whites) are engaged in a generational conflict. However, I shall continue to assume that $E_w = 0$ if whites are engaged in a generational conflict.

Let α_o be the probability that old whites will be successful in a generational conflict. To find the valuations of old blacks and young blacks in a racial conflict, we need to take into account the probability that old whites will be successful in a generational conflict. If old whites are successful in a generational conflict and blacks win a racial conflict, then old blacks will get $t\Omega$ and so young blacks have a discounted valuation of $\delta t\Omega$ in a racial conflict. Hence, in this case, the expected total valuation for blacks in a racial conflict is $\alpha_o(1 + \delta)t\Omega$. If old whites lose the generational conflict and blacks win the racial conflict, then young blacks save $t\Omega$ in taxes and old blacks gain nothing. So the expected total valuation of blacks in this case is $(1 - \alpha_o)t\Omega$.²⁴ So aggregate valuation of blacks in a racial conflict is

$\alpha_o(1 + \delta)t\Omega + (1 - \alpha_o)t\Omega = (1 + \alpha_o\delta)t\Omega$.²⁵ Then given $E_w = 0$, it is easy to show that

blacks will not fight racism if $\eta \geq \frac{(1 + \alpha_o\delta)t\Omega}{4}$ and will fight racism if $\eta < \frac{(1 + \alpha_o\delta)t\Omega}{4}$.

If blacks do not fight racism, then racism prevails. If they fight racism, their probability of success, given $E_w = 0$, is $P_b^* = 1 - \sqrt{\eta/V_b}$, where $V_b \equiv (1 + \alpha_o\delta)t\Omega$. Note that

²⁴ This is only the valuation of young blacks.

²⁵ Note in the case where old blacks have no valuation in a racial conflict, the valuation of blacks is only weighted by the size of young blacks (i.e., $N = 1$). This is what gives $(1 - \alpha_o)t\Omega$.

$P_b^* > 0.5$ since $\eta < \frac{V_b}{4}$. Since α_o is an endogenous variable, these conditions make sense

if the value of α_o is determined. I shall return to this later.

We now need the new valuations of old and young whites in a generational conflict. If blacks are successful in a racial conflict, then young whites pay $t\Omega$ in taxes and old whites get reduced transfers of $t\Omega$. If the blacks are not successful, the valuations of young whites and old whites are as before: $(1.5 - 2\delta)t\Omega$ and $1.5t\Omega$. So the *expected* valuations of old whites in a generational conflict is $V_o = P_b^* t\Omega + 1.5(1 - P_b^*)t\Omega$. Since $(1.5 - 2\delta)t\Omega > 0$ if $\delta < 0.75$ and $(1.5 - 2\delta)t\Omega \leq 0$ if $0.75 \leq \delta \leq 1$, the expected valuation of young whites is $V_y = P_b^* (1 - \delta)t\Omega + (1 - P_b^*)(1.5 - 2\delta)t\Omega$ if $\delta < 0.75$ and $V_y = P_b^* (1 - \delta)t\Omega$ if $0.75 \leq \delta \leq 1$. Note that $V_o \geq V_y$, with strict equality if $\delta = 0$.

There is no generational conflict (i.e., $E_o = E_y = 0$) if $\eta \geq \frac{V_y}{4}$. Generational conflict occurs if $0 \leq \eta < \frac{(V_y)^2 V_o}{(V_y + V_o)^2} \equiv \theta$, where $\theta \leq V_y/4$. It can be shown that $\alpha_o^* = \frac{V_o}{V_y + V_o}$. To construct an equilibrium where there is generational conflict but no

racial conflict we require $\frac{(1 + \alpha_o^* \delta)t\Omega}{4} \leq \eta < \frac{(V_y)^2 V_o}{(V_y + V_o)^2}$. Consistency of beliefs require

that we *set* $P_b^* = 0$ because if there is no racial conflict then both young and old whites must believe that blacks have a zero probability of ending racism, if they (whites) are engaged in a generational conflict. Then $V_o = 1.5t\Omega$ and $V_y = (1.5 - 2\delta)t\Omega$. This gives

$\alpha_o^* = \frac{1.5}{3-2\delta} < 1$, given $\delta < 0.75$. Then the set of values of δ that satisfies this new set of conditions is $\delta < 0.186$. Notice that in the non-mutually exclusive case, we obtained $\delta < 0.161$. Hence if the conflicts are not mutually exclusive, then generational conflict *may be* salient for a wider set of values relative to the case where the conflicts are mutually exclusive. This is because old blacks have a smaller valuation in a racial conflict, if they know that generational discrimination might end. This also reduces the (discounted) valuation of young blacks.

Now suppose we want to construct an example where racial conflict occurs (i.e., $P_b^* > 0$) but generational conflict does not occur. Consider $0.75 \leq \delta \leq 1$, so that $V_y = P_b^* (1 - \delta)t\Omega$. Then a generational conflict will not occur but a racial conflict will occur if $\frac{P_b^*(1-\delta)t\Omega}{4} \leq \eta < \frac{(1+\delta)t\Omega}{4}$.²⁶ It is easy to see that this condition can be satisfied for $0.75 \leq \delta \leq 1$, since $(1 + \delta) > P_b^*(1 - \delta)$.

Now consider $\delta < 0.75$, so that $V_y = P_b^* (1 - \delta)t\Omega + (1 - P_b^*)(1.5 - 2\delta)t\Omega$. A generational conflict will not occur but a racial conflict will occur if $\frac{V_y}{4} \leq \eta < \frac{(1 + \delta)t\Omega}{4}$.

A necessary condition for this to hold is $(1 + \delta)t\Omega > V_y$. This holds

²⁶Since a generational conflict does not occur, consistency of beliefs require that we set $\alpha_o^* = 1$. The reasoning here is that blacks launch a racial conflict believing that whites will not engage in a generational conflict. The condition $\eta < 0.25(1 + \delta)t\Omega$ ensures that this the case. However, for the beliefs of blacks to be borne out in equilibrium, it must be that whites indeed do not engage in a generational conflict. The condition $\eta \geq P_b^*(1 - \delta)t\Omega/4$ ensures that this belief is correct in equilibrium.

if $\hat{\delta} \equiv 0.5(1 - P_b^*) / (3 - P_b^*) < \delta < 0.75$. Note that $\hat{\delta} < 1/6$ given $P_b^* > 0$. Recall that in case 2 of the mutually exclusive case we found that if $1/6 < \delta < 0.75$, then we can construct examples where racial conflict is salient.

Recall that we can construct examples where generational conflict *may be* salient if $\delta < 0.186$. It is important to note again that $\hat{\delta} < 1/6 < 0.186$. Therefore, if $\hat{\delta} < \delta < 0.186$, then we *cannot* construct examples where one conflict is socially intolerable but the other is not. This is the analogue of case 5 in section 2.3 above. It follows that we can construct examples where generational conflict *is* salient if $\delta \leq \hat{\delta} < 0.166$ and racial conflict *is* salient if $0.186 \leq \delta \leq 1$. This leads to the following proposition:

Proposition 3: *If racial conflict and generational conflict are not mutually exclusive, then racial discrimination is socially intolerable for a much wider range of parameters relative to generational discrimination. However, the range of values is smaller relative to the case where the conflicts are mutually exclusive.*

4. Discussion and extensions

Propositions 1, 2, and 3 are driven by the effect of racial discrimination on the benefits of generational conflict. *Given* racial discrimination, both young and old blacks gain nothing from a generational conflict. Success in the generational conflict does not translate into any benefit for blacks because they continue to face racial discrimination. This is what makes the generational conflict less likely to occur. In contrast, generational discrimination does not have this effect on either whites or blacks if they succeed in a racial conflict. There are clear gains from success in the racial conflict even if generational discrimination exists: whites retain their privileges and blacks break down

adverse discriminatory barriers. While success in the racial conflict affects payoffs on the generational dimension,²⁷ the reverse is not true. This asymmetric effect is the driving force behind the propositions.

The overarching effect of discrimination based on immutable or permanent characteristics like race, ethnicity or gender explains the salience of such discrimination in generating conflict. Once an individual is the victim of discrimination along these immutable dimensions,²⁸ several other benefits are out of reach to him or her. Therefore, giving priority to fighting for these benefits does not make sense if access to them is inextricably linked to race, ethnicity or gender. That is why race, ethnicity, or gender is salient in my model and indeed in the real world. In contrast, discrimination that is based on non-permanent characteristics such as age does not have this kind of overarching effect.

In the non-mutually exclusive case, generational conflict affects the valuations of blacks in a racial conflict through the effect of α_0^* on V_b . However, this is an indirect or strategic effect stemming from the fact that the conflicts are not mutually exclusive. The overarching effect of racial discrimination discussed above is a direct or non-strategic effect and therefore does not depend on whether the conflicts are mutually exclusive.

Balkin (1997, p. 2360) poignantly makes the point about the overarching effect of a trait such as race or gender by noting that:

²⁷ This is especially so in the mutually exclusive case. To easily see the intuition behind the results, a reader might want to focus on the mutually exclusive case.

²⁸ Notice that while one may argue that some of these characteristics such as gender can be changed, the emotional and physical cost of doing so could be very high. Besides, I suspect that the cost to a woman (man) who has to change her (his) gender because s/he truly believes and feels that s/he is “in the wrong body” will be considerably lower than the cost to a woman (man) who has to change her (his) gender to avoid discrimination.

“[T]here may be a status hierarchy between skiers and snowboarders. Being a skier rather than a snowboarder, however, is not a central feature of one’s social identity. It is not something that affects many overlapping aspects of one’s everyday interactions with others, or that has ripple effects in various parts of one life, including wealth, social, connections, political power, employment prospects . . . By contrast, being a black person as opposed to being a white person, or being female as opposed to being male, is a central feature of one’s identity, at least in contemporary America.²⁹ It does affect a large percentage of one’s personal interactions with others, and it has many mutually supporting and overlapping effects.”

One may argue that by using discrimination based on a particular non-permanent characteristic like age, I will necessarily obtain results where age, being related to time, will be salient depending on the discount factor. However, it is important to take note of the following observations. First, my analysis shows that the salience of age discrimination is not monotonic in the discount factor. For example, the analysis shows that there are intermediate values of the discount factor where neither racial nor age discrimination is salient. Second, the results have nothing to do with the fact that age is related to time. All that is required is a parameter that captures the fact that the characteristic, be it age or immigration status, is non-permanent. Hence the discount factor could be replaced with the probability of becoming old.

On the foregoing point, whether a particular value of the discount factor makes racial or age discrimination salient depends on two factors. First, racial or age discrimination will lead to conflict if the valuation of blacks or young whites (respectively) is sufficiently high. This may be called the absolute-valuation effect. Second, racial or age discrimination will lead to conflict if the factions are sufficiently matched. For example, not only must the valuations of blacks be sufficiently high to trigger a racial conflict, it must also be sufficiently high *relative* to the valuation of

²⁹ Of course, discrimination is not only a black-white issue nor is it restricted to the USA. In several parts of Africa, Asia, and Europe there is discrimination based on ethnicity, gender, and nationality.

whites. This may be called relative-valuation effect. In the model, the overarching effect of racism implies that the factions in a racial conflict will tend to have a higher absolute valuation than the factions in a generational conflict. However, whether race is salient will depend on how the relative valuations in either conflict. At sufficiently low values of the discount factor, the absolute valuations in the generational conflict are higher than in the racial conflict. However, generational discrimination may not be salient relative to racism because the factions in the racial conflict are more equally matched than the factions in the generational conflict.³⁰ This is why neither form of discrimination is salient for intermediate values of the discount factor.

Age is a non-permanent but unalterable characteristic of a person. For the sake of argument, suppose age is non-permanent if and only if a person invests $\beta \geq 0$ units of output to become old. This makes age an alterable characteristic. Conditional on this investment, suppose a young person could instantaneously become old and suppose each young person believes that leaving the labor force has no effect on aggregate tax revenue since he is an atomistic member of the society. Then, *given* racism,³¹ a young white person will not change his age if $(1 - t)\Omega \geq 2t\Omega - \beta$.³² In this case age, like race, will become a permanent characteristic because the cost of changing it is sufficiently high.

Then in a generational conflict, there will be no discounting by the young (i.e., $\delta = 0$) so

³⁰Clearly, race would be less salient if I had assumed that blacks had a higher unit cost of exerting effort than whites in the racial conflict. This is analytically equivalent to increasing (reducing) the valuation of whites (blacks) in the racial conflict. However, this does not change my results because to bias the results in favor of making race more salient, I could also have assumed that that young whites had a lower or a higher unit cost of effort than old whites. The assumption of symmetric unit costs of effort is the same as Esteban and Ray's (2008) assumption that in class or ethnic conflict, the compensation rates paid to activists across alliances are the same. In the present model, assumptions about symmetry allow me to focus on how the nature of racism and age discrimination *per se* drive the results.

³¹This assumes that racial and generational conflicts are mutually exclusive. The argument still goes through if racism no longer exists.

³²Note that there is no discounting (i.e., $\delta = 1$) because the change from being young to being old is instantaneous.

age discrimination will be salient. But this does not change my analysis because the model then reduces to the comparison of two forms of discrimination based on permanent or immutable characteristics.³³ What I am interested in is comparing discrimination based on immutable, permanent, or prohibitively alterable characteristics and discrimination based on non-permanent or reasonably alterable characteristics. If $(1 - t)\Omega < 2t\Omega - \beta$, so that a young person would want to change his age, this will strengthen my results since that reduces the likelihood of a generational conflict.

It is important to emphasize that my argument is not driven by any *intrinsic* aversion to or value judgements about discrimination that is based on immutable traits (e.g., race, gender, or ethnicity). Discrimination in this paper is analyzed from a socio-political point of view. This is somewhat consistent with Balkin's (1997, p. 2365-2366) argument that

“[A]nalyzing discrimination in terms of status groups ... helps us understand our objections to discrimination ... Discrimination against blacks, for example, is not unjust simply because race is an immutable characteristic. Focusing on immutability per se confuses biological with sociological considerations. It confuses the physical existence of the trait with what the trait means in a social system ... The question is not whether a trait is immutable, but whether there has been a history of using the trait to create a system of social meanings, or define a social hierarchy, that helps dominate and oppress people. Any conclusions about the importance of immutability already presuppose a view about background social structure.”³⁴

³³ Note, however, that the argument in this case is hypothetical because age is indeed a non-permanent characteristic. And if age were permanent, so that young whites never became old, then racism in the model is only *partial* racism because there would be no difference between young whites and young blacks in the status quo. They will both pay taxes with no hope of ever receiving transfers.

³⁴ To reconcile this quote with Balkin's previous quote, note that Balkin (1997) does not argue that a trait such as race has an overarching effect because it is immutable. His argument is that racial discrimination has an overarching effect because it is used to create a system of social meanings or define a social hierarchy with far-reaching effects. However, he argues that “[S]ocial hierarchies often assign differential social meanings to immutable traits because they make exit from low status more difficult.” In other words, Balkin (1997) argues that the immutability of a trait is not what makes it bad as a discriminatory trait. However, societies discriminate using immutable traits because they are more efficient markers of discrimination.

In my analysis, I made no prior conclusions about the importance of immutability. What I did was simply to assume that there is status attached to certain characteristics (i.e., race and age) regardless of their immutability or permanence. Status has instrumental consequences, so any aversion to discrimination in my model is instrumental. I then argued, based on my model, that lower status that is based on immutable traits has overarching effects than lower status that is based on alterable or non-permanent traits.

My analysis of socially-tolerable discrimination is a positive analysis. To be sure, there are normative principles like equal protection that informs a society's attitude to discrimination. From a positive analysis standpoint, the legislature and courts may allow certain forms of discrimination if such discrimination is less likely to trigger social unrest.³⁵ In this regard, the courts take an instrumental or utilitarian view of discrimination. Of course, the courts and society may also have an intrinsic aversion to certain forms of discrimination such as racial or gender discrimination, and in such instances may take a purely non-utilitarian or Rawlsian position wherein a *disproportionate* weight is given to the welfare of the victims of such discrimination. To the extent that the aversion to racial or gender discrimination affects the likelihood of social unrest, the actions of lawmakers and the courts in such situations may be a

³⁵ Indeed, Balkin (1997, p. 2340) makes a stronger point by noting that "... it is unlikely that members of higher status groups (who tend to dominate the legislatures and the judiciary) will even recognize the possibility of a problem until a social movement appears on the scene to demand increased status."

combination of the utilitarian and non-utilitarian positions.³⁶

Socially-tolerable discrimination need not imply that the victims or even all beneficiaries approve of such discrimination. The victims may grudgingly accept such discrimination because the politico-legal institutions are not sufficiently sensitive to efforts to change the status quo (i.e., η is not sufficiently low).

Suppose I had assumed that young whites had a higher endowment of capital than young blacks and that success by blacks in the racial conflict will lead to a redistribution of resources where young whites get a smaller capital than before and young blacks get a bigger capital than before. Or suppose I had assumed that young whites were taxed at a lower rate than young blacks and that success by blacks in the racial conflict will lead to a higher tax rate for blacks and a lower tax rate for whites. Introducing such differential capital endowments and/or differential tax rates and assuming that aggregate tax revenue is unaffected by racial conflict will only strengthen propositions 1 and 2 because it will increase the valuations of young blacks and young whites in the racial conflict.³⁷

Assuming different sizes of racial and generational groups will not significantly alter my results. More importantly, in order to focus on the relative effects of racial and generational discrimination on the incidence of conflict, it is helpful to maintain equal group sizes. That way, any differences in results can be attributed to differences between

³⁶ On this point, Siegel (1997, p. 1119) notes that "... attempts to dismantle a status regime can discredit the rules and reasons employed to enforce status relations in a given historical era, and so create pressure on legislators and jurists to reform the contested body of law ..." He continues "... it is highly unlikely that the regime that emerges from the reform will redistribute material and dignitary "goods" in a manner that significantly disadvantages the beneficiaries of the prior, contested regime. But if the reformed body of law is to reestablish its legitimacy, it must distribute social goods in a manner that can be differentiated from the prior, contested regime. ... These reforms may well improve the material and dignitary circumstances of subordinated groups, but they will also enhance the legal system's capacity to justify regulation that perpetuates inequalities among status-differentiated groups."

³⁷ The valuations of old whites and old blacks will be affected if and only if aggregate tax revenue is affected by the outcome of the racial conflict. Holding aggregate tax revenue constant helps to focus on the main driving force behind the propositions above.

the effects of racial and generational discrimination instead of to differences in group sizes.³⁸

As Esteban and Ray (2008) note “[I]t is impossible (and unwise) to predict that ethnicity must be salient in *all* circumstances. What we do argue is that in a wide variety of situations ... the potential for synergy within a coalition of rich and poor can bring ethnic markers to the forefront.” In the same vein, I do not wish to claim that racial discrimination will be salient relative to all forms of discrimination in all circumstances.³⁹ Surely, to make racial conflict less salient one could use different group sizes, different effects of racial and generational conflict on aggregate tax revenue, different tax rates on young whites and young blacks, different values of η for blacks and whites in the racial conflict success function, different unit costs of efforts for the faction in either conflict, etc. But these changes simply muddy the waters by taking us away from the key insight that the overarching effect of discrimination based on permanent characteristics explains the salience of such discrimination.

Another reason why discrimination based on alterable or non-permanent characteristics such as age are less likely to lead to conflict is because their alterable or temporary character implies there will be sufficient diversity among coalition members leading to difficulties in solving the free-rider problem. For example, a coalition of the young fighting a pay-as-you-go social security program may range from ages 18 to 65 with *constantly changing* degrees of proximity across time and across individuals to the legal definition of old age. In contrast, there may be less diversity within racial, gender,

³⁸The assumption of equal group sizes is the analogue of the symmetry condition in Esteban and Ray (2008).

³⁹ Indeed, it will be difficult to write down a model that encompasses all forms of discrimination. However, as noted in section 2, any such model must have a surplus or rent that is divided according to some characteristic.

or ethnic groups. And even if there is enough diversity within these groups, they can still form relatively effective coalitions so long as the law or dominant group discriminates against them based on their perceived commonalities (e.g., skin color or gender) as opposed to their differences.

5. Conclusion

That some discrimination is socially tolerable is an indication that the principle of equal protection may not be consistently and uniformly applied. The practical application of the principle by the courts involves a balance of political, economic, legal, philosophical, social, and historical considerations (Balkin, 1997; Siegel, 1997). On the other hand, the social intolerance for some forms of discrimination such those based on race, gender, and ethnicity implies that the social costs of such discrimination makes them unsustainable in the long run.

There are certainly reasons why racial, gender, or ethnic discrimination is more likely to be less socially tolerable (i.e., lead to conflict) relative to other forms of discrimination, especially those based on alterable characteristics. As argued in the introduction, a reason is the stronger aversion to discrimination based on immutable characteristics. In this paper, I have shown that racism is likely to lead to conflict without appealing to a higher intrinsic aversion to racism relative to other forms of discrimination (e.g., age discrimination). I established this result without assuming that racial animosity makes generational conflict impossible because young blacks and whites are unwilling to join forces. I also did not make any value judgements about racial or age discrimination.

While my model is undoubtedly simple it, nevertheless, sheds some light on the political economy of tolerable discrimination. The overarching effect of discrimination based on immutable characteristics such as race, ethnicity, and gender partly explains why such discrimination has led to conflict as evidenced in the USA, South Africa, the Middle East, sub-Saharan Africa, and several parts of the world.

References

- Acemoglu, D., and Robinson, J.A. (2000). Why did the West Extend the Franchise? Democracy, Inequality, and Growth in a Historical Perspective. *Quarterly Journal of Economics* 115: 1167-1199.
- Amegashie, J.A. (2006). A Contest Success Function with a Tractable Noise Parameter. *Public Choice* 126: 135-144.
- Ayres, I., and Brown, J.G. (2005). *Straightforward: How to Mobilize Heterosexual Support for Gay Rights*. Princeton University Press.
- Balkin, J.M. (1997). The Constitution of Status. *Yale Law Journal* 106: 2313-2374.
- Basu, K. (2005). Racial Conflict and the Malignancy of Identity. *Journal of Economic Inequality* 3: 221-241.
- Baye, M.R., and Hoppe, H.H. (2003). The Strategic Equivalence of Rent-Seeking, Innovation and Patent Games. *Games and Economic Behavior* 44: 217-226.
- Benabou, R, and Ok, E. (2001). Social Mobility and the Demand for Redistribution: The POUM Hypothesis. *Quarterly Journal of Economics* 116: 447-487.
- Coate, S, and Loury, G.C. (1993). Will Affirmative-Action Policies Eliminate Negative Stereotypes? *American Economic Review* 83: 1220-1240.
- Esteban, J., and Ray, D. (2008). On the Saliency of Ethnic Conflict. *American Economic Review*, forthcoming:
<http://www.econ.nyu.edu/user/debraj/Papers/EstebanRaySaliency.pdf>
- Fullerton, D., and McAfee, P. (1999). Auctioning Entry into Tournaments. *Journal of Political Economy* 107: 573-605.

Harvard Law Review (1969). Developments in the Law: Equal Protection. *Harvard Law Review* 82: 1065-1192.

Robinson, J.A. (2001). Social Identity, Inequality, and Conflict. *Economics of Governance* 2: 85-99.

Siegel, R. (1997). Why Equal Protection No Longer Protects: The Evolving Forms of Status-Enforcing State Action. *Stanford Law Review* 49:1111-1148.

Skaperdas, S. (1996). Contest Success Functions. *Economic Theory* 7: 283-290.

Swift, J. (2006). Justifying Age Discrimination. *Industrial Law Journal* 35: 228-244.

CESifo Working Paper Series

for full list see www.cesifo-group.org/wp

(address: Poschingerstr. 5, 81679 Munich, Germany, office@cesifo.de)

- 2229 Scott Alan Carson, Geography and Insolation in 19th Century US African-American and White Statures, February 2008
- 2230 Wolfgang Buchholz and Jan Schumacher, Discounting and Welfare Analysis Over Time: Choosing the η , February 2008
- 2231 M. Hashem Pesaran, Christoph Schleicher and Paolo Zaffaroni, Model Averaging in Risk Management with an Application to Futures Markets, February 2008
- 2232 Wilhelm Kohler, Offshoring: Why Do Stories Differ?, February 2008
- 2233 Stefan Bach, Giacomo Corneo and Viktor Steiner, Effective Taxation of Top Incomes in Germany, 1992-2002, February 2008
- 2234 Robert S. Chirinko, σ : The Long And Short Of It, February 2008
- 2235 Volker Grossmann and Holger Strulik, Should Continued Family Firms Face Lower Taxes than other Estates?, February 2008
- 2236 Guido Tabellini, The Scope of Cooperation: Values and Incentives, February 2008
- 2237 Heinrich W. Ursprung and Christian Wiermann, Reputation, Price, and Death: An Empirical Analysis of Art Price Formation, March 2008
- 2238 Hans Fehr and Christian Habermann, Private Retirement Savings in Germany: The Structure of Tax Incentives and Annuitization, March 2008
- 2239 Joseph Francois and Ian Wooton, Market Structure and Market Access, March 2008
- 2240 Hiroyuki Kasahara and Beverly Lapham, Productivity and the Decision to Import and Export: Theory and Evidence, March 2008
- 2241 Gary E. Bolton and Axel Ockenfels, Does Laboratory Trading Mirror Behavior in Real World Markets? Fair Bargaining and Competitive Bidding on eBay, March 2008
- 2242 Atsushi Oshima, B. Ravikumar and Raymond Riezman, Entrepreneurship, Organization Capital and the Evolution of the Firm, March 2008
- 2243 Walter Krämer and Sebastian Schich, Large-Scale Disasters and the Insurance Industry, March 2008
- 2244 Leif Danziger, Adjustment Costs, Inventories and Output, March 2008
- 2245 Anne van Aaken, Lars P. Feld and Stefan Voigt, Power over Prosecutors Corrupts Politicians: Cross Country Evidence Using a New Indicator, March 2008

- 2246 Hans-Christian Heinemeyer, Max-Stephan Schulze and Nikolaus Wolf, Endogenous Borders? The Effects of New Borders on Trade in Central Europe 1885-1933, March 2008
- 2247 Johannes Becker and Clemens Fuest, Tax Competition – Greenfield Investment versus Mergers and Acquisitions, March 2008
- 2248 Giorgio Bellettini and Hubert Kempf, Why not in your Backyard? On the Location and Size of a Public Facility, March 2008
- 2249 Jose Luis Evia, Roberto Laserna and Stergios Skaperdas, Socio-Political Conflict and Economic Performance in Bolivia, March 2008
- 2250 Bas Jacobs and A. Lans Bovenberg, Optimal Taxation of Human Capital and the Earnings Function, March 2008
- 2251 Jan-Egbert Sturm and Timo Wollmershäuser, The Stress of Having a Single Monetary Policy in Europe, March 2008
- 2252 Guido Schwerdt, Labor Turnover before Plant Closure: ‘Leaving the Sinking Ship’ vs. ‘Captain Throwing Ballast Overboard’, March 2008
- 2253 Keith E. Maskus and Shuichiro Nishioka, Development-Related Biases in Factor Productivities and the HOV Model of Trade, March 2008
- 2254 Jeremy Edwards and Sheilagh Ogilvie, Contract Enforcement, Institutions and Social Capital: the Maghribi Traders Reappraised, March 2008
- 2255 Imed Drine and Christophe Rault, Purchasing Power Parity for Developing and Developed Countries. What can we Learn from Non-Stationary Panel Data Models?, March 2008
- 2256 Scott Alan Carson, Health, Wealth and Inequality: a Contribution to the Debate about the Relationship between Inequality and Health, March 2008
- 2257 C.A.E. Goodhart, The Regulatory Response to the Financial Crisis, March 2008
- 2258 Stefan Bauernschuster, Oliver Falck and Stephan Heblich, The Impact of Continuous Training on a Firm’s Innovations, March 2008
- 2259 Michael Grimm and Stephan Klasen, Geography vs. Institutions at the Village Level, March 2008
- 2260 Fwu-Ranq Chang, Property Insurance, Portfolio Selection and their Interdependence, March 2008
- 2261 J. Atsu Amegashie and Marco Runkel, The Paradoxes of Revenge in Conflicts, March 2008

- 2262 Hans Jarle Kind, Marko Koethenbueger and Guttorm Schjelderup, Efficiency Enhancing Taxation in Two-sided Markets, March 2008
- 2263 M. Hashem Pesaran, Til Schuermann and L. Vanessa Smith, Forecasting Economic and Financial Variables with Global VARs, March 2008
- 2264 Volker Grossmann, Entrepreneurial Innovation and Sustained Long-run Growth without Weak or Strong Scale Effects, March 2008
- 2265 Robert S. Chirinko and Huntley Schaller, The Irreversibility Premium, March 2008
- 2266 Andrea Galeotti and José Luis Moraga-González, Platform Intermediation in a Market for Differentiated Products, April 2008
- 2267 Torben M. Andersen and Michael Svarer, The Role of Workfare in Striking a Balance between Incentives and Insurance in the Labour Market, April 2008
- 2268 Harald Badinger, Cyclical Fiscal Policy, Output Volatility, and Economic Growth, April 2008
- 2269 Thomas Aronsson and Erkki Koskela, Outsourcing and Optimal Nonlinear Taxation: A Note, April 2008
- 2270 Gary E. Bolton, Claudia Loebbecke and Axel Ockenfels, How Social Reputation Networks Interact with Competition in Anonymous Online Trading: An Experimental Study, April 2008
- 2271 Nikolaus Wolf, Scylla and Charybdis. Explaining Europe's Exit from Gold, January 1928 – December 1936, April 2008
- 2272 Michael Funke and Marc Gronwald, The Undisclosed Renminbi Basket: Are the Markets Telling us something about where the Renminbi – US Dollar Exchange Rate is Going?, April 2008
- 2273 Thor Olav Thoresen and Annette Alstadsæter, Shifts in Organizational Form under a Dual Income Tax System, April 2008
- 2274 Helge Berger and Volker Nitsch, Too many Cooks? Committees in Monetary Policy, April 2008
- 2275 Yin-Wong Cheung and Eiji Fujii, Deviations from the Law of One Price in Japan, April 2008
- 2276 Michael S. Michael, Sajal Lahiri and Panos Hatzipanayotou, Integrated Reforms of Indirect Taxes in the Presence of Pollution, April 2008
- 2277 Bas Jacobs, Is Prescott Right? Welfare State Policies and the Incentives to Work, Learn and Retire, April 2008

- 2278 Burkhard Heer and Alfred Maußner, Value Function Iteration as a Solution Method for the Ramsey Model, April 2008
- 2279 Jarko Fidrmuc and Christa Hainz, Integrating with their Feet: Cross-Border Lending at the German-Austrian Border, April 2008
- 2280 Kristof Dascher and Alexander Haupt, The Political Economy of Regional Integration Projects at Borders where Rich and Poor Meet: The Role of Cross-Border Shopping and Community Sorting, April 2008
- 2281 Katrin Assenmacher-Wesche and M. Hashem Pesaran, A VECX* Model of the Swiss Economy, April 2008
- 2282 Christophe Rault, Robert Sova and Ana Maria Sova, Modeling International Trade Flows between CEEC and OECD Countries, April 2008
- 2283 Timo Boppart, Josef Falkinger, Volker Grossmann, Ulrich Woitek and Gabriela Wüthrich, Qualifying Religion: The Role of Plural Identities for Educational Production, April 2008
- 2284 Armin Falk, David Huffman and W. Bentley MacLeod, Institutions and Contract Enforcement, April 2008
- 2285 Axel Dreher and Stefan Voigt, Does Membership in International Organizations Increase Governments' Credibility? Testing the Effects of Delegating Powers, April 2008
- 2286 Xavier Freixas and Bruno M. Parigi, Lender of Last Resort and Bank Closure Policy, April 2008
- 2287 Regina Dionisius, Samuel Muehlemann, Harald Pfeifer, Günter Walden, Felix Wenzelmann and Stefan C. Wolter, Cost and Benefit of Apprenticeship Training – A Comparison of Germany and Switzerland, April 2008
- 2288 Francesco Daveri and Cecilia Jona-Lasinio, Off-Shoring and Productivity Growth in the Italian Manufacturing Industries, April 2008
- 2289 Mikael Priks, Do Surveillance Cameras Affect Unruly Behavior? A Close Look at Grandstands, April 2008
- 2290 Marianna Belloc and Daniela Federici, A Two-Country NATREX Model for the Euro/Dollar, April 2008
- 2291 Nicolas Treich, The Value of a Statistical Life under Ambiguity Aversion, April 2008
- 2292 J. Atsu Amegashie, Socially-Tolerable Discrimination, April 2008