Reputation, Commitment, and Discriminatory Taxation of Foreign Investment

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Abstract

We study whether reputational concerns can sustain non-preferential taxation of foreign investment in the absence of an externally enforced commitment mechanism. In a two-period model, foreign investors differ in their outside options, investment is irreversible, and investors are uncertain about whether the host government is committed to maintaining a non-preferential tax regime. An opportunistic government may mimic the taxation strategy of a commitment type, sacrificing current revenue to induce investors to invest earlier and thereby enlarge the installed capital base that can be taxed subsequently. When the potential foreign capital base is small, the government instead reveals its type and adopts preferential taxation. As the foreign capital base increases, reputation becomes more valuable: the government adopts non-preferential taxation with certainty when investors' prior belief in the commitment type is sufficiently high, and with positive probability when that belief is lower. Thus, reputation can endogenously provide some of the commitment benefits otherwise associated with institutional restrictions on preferential taxation.

JEL classification: F21; H21; H25; H87; D82
Keywords: Dynamic inconsistency; foreign investments; non-preferential taxation

1 Introduction

International investment is particularly exposed to sovereign risk because governments cannot always credibly commit to policies affecting the returns on capital once investment has been undertaken. This problem is especially acute

when investment is irreversible.[1] A government seeking to attract foreign capital may initially promise favorable tax treatment, but once capital has been installed and become immobile,[2] the government has an incentive to appropriate a larger share of its returns (Kydland and Prescott 1977). Anticipating such policy changes, foreign investors may reduce or postpone investment.[3] The resulting commitment problem has long occupied the literature on foreign direct investment, sovereign risk, and international finance (Eaton and Gersovitz 1983).

A related commitment problem arises when foreign investors differ in their willingness to invest. After attracting investors with relatively poor outside options, a host government has an incentive to offer more favorable tax treatment to the remaining, more mobile investors without extending the same treatment to capital already located within its jurisdiction. Anticipating better tax treatment in the future, investors may strategically postpone investment. The problem resembles the dynamic inconsistency faced by a durable-good monopolist (Bulow 1982; Stokey 1981): the government's ability to discriminate between installed and prospective capital undermines its current ability to attract investment (Coase 1972; Ausubel and Deneckere 1989).

One way of mitigating this problem is to restrict the government's ability to discriminate across tax bases. International arrangements that constrain preferential taxation can provide precisely such a commitment technology. The OECD's work on harmful tax practices, for example, scrutinizes preferential regimes applying to geographically mobile income and identifies the ring-fencing of preferential regimes from the domestic economy as a potentially harmful feature. Commitment to non-preferential taxation can resolve a dynamic inconsistency problem even when the government cannot commit to future tax rates: because future tax reductions must also apply to the existing capital base, lowering taxes to attract additional investors becomes more costly, thereby reducing investors' incentives to delay investment.[4]

This raises a different question, which is the focus of this paper. Does a government need an external institutional arrangement to obtain the commitment benefits associated with non-preferential taxation? We provide an argument that it need not. When investors are uncertain about the government's willingness to maintain non-discriminatory taxation, the government may acquire partial commitment endogenously by building a reputation for being a government that does so.

We analyze our argument in a two-period model in which foreign investors differ in their outside investment opportunities and investments are irreversible. Investors are uncertain about the type of the host government. A commitment

[1] See, for example, Grout (1984) for an early analysis of investment incentives in the absence of binding commitments.

[2] See, for example, Guriev, Kolotilin, and Sonin (2011) and Hajzler (2012) for empirical evidence.

[3] See Langenmayr and Simmler (2024) for recent empirical evidence that firms anticipate future tax changes when making entry decisions.

[4] See, for example, Kishore and Roy (2014).

type is constrained to follow a non-preferential regime, whereas an opportunistic type is free to discriminate between existing and prospective capital and chooses its taxation regime to maximize revenue. Because government type is privately known, the taxation regime adopted in the first period conveys information about future government behavior. When investors are uncertain about the government's willingness to maintain non-discriminatory taxation, the government may acquire partial commitment endogenously by building a reputation for being a government that does so (Kreps and R. Wilson 1982; Milgrom and Roberts 1982).

The opportunistic government therefore faces a trade-off. Discriminatory taxation provides greater flexibility and may generate greater current revenue. However, by instead mimicking the commitment type and adopting non-preferential taxation, the government preserves the possibility that investors assign to it the commitment type. This reputation changes investors' expectations about future taxation. In particular, investors become less confident that waiting will produce preferential treatment in the future and consequently invest earlier. The government sacrifices the immediate benefits of discrimination in exchange for a larger installed capital base. After reputation has induced investors to undertake irreversible investment, the government may exploit the larger capital base in the subsequent period.

The paper contributes to four strands of literature. First, the paper contributes to the literature on the taxation of mobile capital and the rationale for restricting preferential taxation. Much of this literature has examined preferential taxation in the context of tax competition among countries. A natural argument for restricting preferential taxation is that, when countries compete to attract internationally mobile capital, their ability to offer favorable treatment specifically to mobile tax bases may intensify tax competition. Requiring governments to apply the same tax rate to mobile and less mobile tax bases can make tax reductions more costly and may therefore soften competition and increase equilibrium tax revenues.

There is, however, an important countervailing force. Keen (2001) shows that preferential taxation can make tax competition less harmful by allowing governments to confine aggressive tax competition to the relatively mobile part of the tax base. When tax bases differ in their elasticities, a preferential regime allows governments to set lower tax rates on relatively elastic bases while preserving higher tax rates on relatively inelastic bases. Under non-preferential taxation, by contrast, a reduction in the tax rate intended to attract mobile capital must also be extended to less mobile capital. In Keen's environment, the revenue loss arising from this inability to differentiate tax rates outweighs the benefit from mitigating tax competition, so that preferential taxation generates greater tax revenue.[5]

Subsequent work has identified conditions under which restrictions on preferential taxation can nevertheless be desirable. These arguments depend on

[5]See Keen (2001) for the argument that preferential taxation may be less harmful than non-preferential taxation when countries compete over mobile tax bases. Kishore (2017) obtains a related result when investors are large.

features such as differences in the mobility and elasticity of tax bases, asymmetries between competing countries, and home bias.[6] Thus, this literature primarily asks whether restricting tax discrimination can improve outcomes by altering the nature and intensity of tax competition among governments.

Kishore and Roy (2014) provide a fundamentally different rationale for non-preferential taxation. Their argument does not rely on tax competition between countries: there is a single host government facing heterogeneous foreign investors whose investments become sunk after entry. Once some investors have entered, the government has an incentive to tax installed capital heavily while lowering the tax imposed on prospective investors in order to attract those with less favorable investment opportunities in the host country. Anticipating this future discrimination, investors have an incentive to postpone investment, which reduces the government's tax revenue. The problem is therefore one of dynamic inconsistency rather than intergovernmental tax competition. Commitment to non-preferential taxation links the treatment of prospective investors to that of the installed capital base and thereby makes future tax reductions more costly. Importantly, this mechanism does not require the government to commit to future tax rates; commitment to treating installed and prospective capital non-preferentially is sufficient to mitigate the dynamic inconsistency.[7]

The present paper builds directly on this commitment rationale but replaces externally imposed commitment with reputation. In Kishore and Roy (2014), the government obtains the commitment benefit of non-preferential taxation by being constrained to maintain non-discriminatory treatment. We ask whether some of the same commitment benefit can arise endogenously when no such constraint is imposed. When investors are uncertain about the government's type, an opportunistic government may choose non-preferential taxation in order to mimic a government that is committed to such a regime. By preserving its reputation, it changes investors' expectations about future discrimination and induces them to invest earlier. Non-preferential taxation can therefore arise not only as an institutional restriction designed to address tax competition or dynamic inconsistency, but also endogenously as a reputational device.

Second, the paper contributes to the literature on foreign investment under limited commitment. A central problem in this literature is that foreign investment involves irreversible or sunk expenditures, while governments cannot fully commit to the policies that will apply after investment has taken place. Once capital has been installed, the host government may therefore have an incentive to expropriate part of its return or otherwise alter the terms initially offered to investors. Anticipating this possibility, foreign investors may distort their investment decisions. Existing work has examined how repeated interaction, reputation, self-enforcing arrangements, and control rights can mitigate

[6] See, for example, Bucovetsky (1991), Janeba and Smart (2003), Haupt and Peters (2005), Bucovetsky and Haufler (2007), Kishore (2019), and Mongrain and John Douglas Wilson (2018). John D. Wilson (2005) shows that when two symmetric countries compete for capital and tax bases are either completely immobile or perfectly mobile, preferential and non-preferential regimes can yield the same tax revenue.

[7] See Kishore and Roy (2014).

this hold-up problem.[8]

An important part of this literature already emphasizes reputation as a mechanism for overcoming the government's inability to commit. In these models, however, reputation generally operates through repeated interaction over an infinite horizon: a government refrains from exploiting installed foreign capital because doing so damages its reputation and reduces the benefits it can obtain from foreign investment in the future. The mechanism therefore resembles the "bootstrap" reputational equilibria familiar from the repeated-game literature.[9] More recently, Yun (2023) introduces government reputation into a model of corporate taxation and foreign direct investment, where reputation concerns the government's commitment to an announced tax policy and affects firms' investment decisions.

The reputational mechanism in the present paper is fundamentally different. It operates in a finite-horizon environment with asymmetric information about the government's type. Investors assign a positive probability to the government being a commitment type, and an opportunistic government may mimic this type in order to influence investors' posterior beliefs about future taxation. Reputation therefore arises through Bayesian learning about an unobserved type, as in Kreps and R. Wilson (1982) and Milgrom and Roberts (1982), rather than through the threat of losing an indefinitely repeated relationship.

Our environment also differs from models in which a large foreign investor can play an active role in mitigating the hold-up problem. Doyle and Wijnbergen (1994), for example, study taxation when the host government and a multinational enterprise bargain after investment. In our model, foreign investors are small and individually have no bargaining power vis-'a-vis the government. They cannot negotiate future taxation or otherwise resolve the government's commitment problem; their relevant response is whether to invest immediately or wait for more favorable future treatment. Consequently, the burden of mitigating the dynamic inconsistency lies entirely with the government and its reputational incentives.

Our contribution to this literature is therefore not that reputation can mitigate the sovereign hold-up problem, but to provide a different foundation for reputation and a different channel through which it affects foreign investment. Reputation arises from asymmetric information about government type in a finite-horizon environment and affects the timing decisions of a continuum of small investors. By influencing investors' expectations about future discrimination, an opportunistic government may induce earlier irreversible investment even without any external commitment to maintain non-preferential taxation.

Third, the paper connects these issues to the broader international-finance literature on sovereign reputation. This literature examines how reputation can substitute, at least partially, for the absence of external enforcement of sovereign commitments. Sovereign debt provides the canonical example. Because repay-

[8] See, for example, Eaton and Gersovitz (1984), Thomas and Worrall (1994), and Schnitzer (1999).

[9] See Klein and Leffler (1981) and Shapiro (1983).

ment promises by sovereign governments are difficult to enforce externally, a government's concern for its future reputation can affect its willingness to honor current obligations. Grossman and Van Huyck (1988), for example, analyze sovereign debt repayment when maintaining a trustworthy reputation preserves future access to borrowing, while subsequent work has further examined reputation as an enforcement mechanism in sovereign debt markets (Cole, Dow, and English 1995).

More recently, Amador and Phelan (2021) analyze the reputational approach to sovereign debt in a continuous-time framework by explicitly modeling uncertainty about government type. In their model, a government may be a commitment type that cannot default or an opportunistic type that can. The opportunistic government mimics the borrowing behavior of the commitment type, while default reveals information about its type; consequently, a country's borrowing terms improve as its reputation is rebuilt following default. Amador and Phelan (2023) extend this approach to partial default and show that larger haircuts damage reputation and lead to higher interest rates on subsequent borrowing.

The mechanism in the present paper applies the same broad insight to a different sovereign commitment problem. Here, the government's relevant action is not debt repayment but the taxation regime it chooses, and reputation affects not the price of sovereign debt but the timing of irreversible foreign investment and tax rates. An opportunistic government mimics a commitment type because the resulting posterior belief changes investors' current behavior. Thus, the reputational mechanism usually associated with sovereign borrowing can discipline other dimensions of sovereign policy as well. The paper therefore links the literature on dynamic inconsistency in foreign investment and international taxation to the modern reputational literature on sovereign risk.

This observation also suggests the possibility of reputational spillovers across policy domains: a government's behavior toward foreign investors may convey information relevant to its credibility in other areas of international economic policy. We do not model these cross-policy reputational spillovers explicitly, and therefore do not claim that they arise within the equilibrium analyzed here. Rather, the model points to them as a potentially important implication. If a government can already obtain some of the investment benefits of non-discrimination through reputation, the rationale for accepting a stronger international commitment may extend beyond attracting foreign capital and associated tax revenues. International agreements may serve as broader commitment devices that enhance confidence in government policy across several dimensions. Modeling such cross-policy spillovers explicitly remains a problem for future research.

Fourth, the paper is related to the industrial-organization literature on dynamic pricing and durable-goods monopoly. As in the durable-goods monopoly problem, agents decide whether to accept the terms currently offered or wait for potentially more favorable terms in the future. There is, however, an important difference. In the standard durable-goods monopoly problem, once a consumer purchases the good, the monopolist's subsequent pricing decisions do not affect

the payoff from that purchase. In our setting, investment creates an ongoing relationship with the government: an investor who enters in the first period remains subject to taxation in the second period. Future policy therefore determines not only the terms available to investors who wait, but also the returns earned by investors who have already invested.

In this respect, our environment is closer to the literature on dynamic pricing with consumer lock-in and behavior-based price discrimination. When consumers face switching costs, firms distinguish between an installed base of relatively immobile consumers and prospective or mobile consumers, creating incentives to "harvest" existing customers while offering more attractive terms to acquire new ones (Cabral 2016). A similar tension arises in dynamic subscription markets, where a monopolist can condition future prices on consumers' past decisions. Penmetsa, Gal-Or, and May (2015), for example, show that commitment not to engage in such history-dependent price discrimination can benefit the monopolist by mitigating the time inconsistency associated with future pricing. More recently, Umezawa and Yamakawa (2025) study how switching costs interact with behavior-based price discrimination when consumers differ in their willingness to switch.

Our model combines the strategic waiting emphasized by the durable-goods literature with the installed-base problem emphasized by the switching-cost literature. Irreversible investment makes existing foreign investors effectively locked in, while investors who have not yet entered remain mobile. Under preferential taxation, the government can exploit this asymmetry by taxing installed capital more heavily while offering more favorable treatment to prospective investors, paralleling price discrimination between locked-in and new consumers. Non-preferential taxation removes this flexibility: any favorable treatment offered to attract new investment must also be extended to the installed base. The resulting linkage between the treatment of past and prospective investors is precisely what generates commitment value. Thus, whereas the switching-cost and subscription-pricing literature typically studies how firms use their ability to discriminate across customer groups, our analysis emphasizes how a restriction on such discrimination can itself serve as a commitment device.

The connection extends further to the IO literature on reputation as a response to dynamic commitment problems. Ausubel and Deneckere (1989) show how reputational considerations can mitigate the commitment problem of a durable-goods monopolist. More recently, Seres (2024) studies a durable-goods monopolist whose commitment ability is privately known, so that consumers' current decisions depend on their beliefs about the seller's ability to maintain future prices. Our reputational mechanism shares this basic logic: investors' willingness to enter depends on their beliefs about the government's future treatment of capital. The distinction is that reputation in our setting operates in the presence of an installed base that remains exposed to future policy and a government that may discriminate between installed and prospective capital. This allows us to study the interaction between two distinct sources of commitment: reputation disciplines policy through investors' beliefs about future government behavior, while non-preferential taxation disciplines policy by restricting the

government's ability to discriminate between past and prospective investors. In this sense, reputation and non-preferential treatment are potentially complementary mechanisms for sustaining investment.

The model delivers four principal results. First, when the potential foreign capital base is sufficiently small, reputation is not valuable enough to compensate the opportunistic government for the immediate cost of mimicking the commitment type. The government therefore reveals its type and adopts preferential taxation, retaining the flexibility to discriminate between installed and prospective capital. Second, as the potential foreign capital base becomes larger, reputation becomes more valuable because it induces a greater mass of investors to enter in the first period, thereby enlarging the installed capital base available for subsequent taxation. Above a critical size of the foreign capital base, an opportunistic government therefore finds it profitable to mimic the non-preferential policy of the commitment type when its reputation is sufficiently strong. The underlying trade-off is between commitment and flexibility: preferential taxation preserves the government's ability to exploit installed capital while offering more favorable terms to prospective investors, whereas non-preferential treatment sacrifices some of this flexibility in order to induce greater initial investment. Third, the form of the reputational equilibrium depends on investors' prior beliefs. When the prior probability of the commitment type is sufficiently high, the opportunistic government mimics with certainty; when the prior is lower, a semi-separating equilibrium arises in which it mimics with positive probability. Moreover, this probability is increasing in the prior belief that the government is committed. Fourth, reputation can sustain non-preferential taxation even when full commitment to a non-preferential regime would not maximize the opportunistic government's total tax revenue. Reputation therefore provides an endogenous form of partial commitment: the government may initially behave as if it were constrained to treat capital non-preferentially in order to induce early investment, while preserving the option to discriminate once that investment has become irreversible. Reputation and non-preferential taxation thus discipline policy in different ways—the former through investors' beliefs about future government behavior and the latter by restricting the government's ability to discriminate between installed and prospective capital. The government may consequently prefer reputational discipline to full commitment because it captures some of the investment-inducing benefits of commitment while preserving the future value of policy flexibility. This commitment–flexibility trade-off parallels that faced by a durable-goods monopolist, but with an additional dimension: future policy affects not only agents who have yet to enter but also an installed capital base whose investment decisions have become irreversible.

The remainder of the paper is organized as follows. Section 2 presents the model, government types, investor decisions, and the equilibrium concept. Section 3 briefly establishes the complete information benchmarks under preferential and non-preferential taxation. Section 4 introduces incomplete information and characterizes the reputational equilibrium. Section 5 derives the principal comparative statics and discusses the relationship between reputational and institutional commitment. Section 6 concludes.

2 Model

The economy lasts for two periods, denoted by $t = 1, 2$. A single host country, country A, seeks to attract investment from outside its jurisdiction. Country A has one unit of immobile domestic capital at the beginning of period 1. This capital generates one unit of return in period 1 and depreciates completely at the end of the period. Consequently, the initial domestic capital does not generate any return in period 2.

A mass $\theta > 1$ of foreign investors, each endowed with one unit of capital, is initially located outside country A. Each investor can choose whether and when to invest her unit of capital in country A. A unit of foreign capital invested in country A generates one unit of return in each period in which it remains productive.

Foreign investors differ in the returns available from investing outside country A. Let r denote the per-period return available to an investor outside country A. The outside return is distributed over $[0, 1]$ according to the cumulative distribution function $F(r)$ with density $f(r) = F'(r) > 0$. We have $F(0) = 0$ and $F(1)$. F is twice continuously differentiable on $(0, 1)$.

Thus, among the mass θ of potential foreign investors, the mass with outside return weakly below r is $\theta F(r)$. We impose the following regularity condition:

$$(1 - r)f'(r) < 2f(r), \qquad r \in (0, 1). \tag{1}$$

For later use, define

$$H(r) \equiv (1 - r)f(r) - F(r). \tag{2}$$

Differentiating gives

$$H'(r) = (1 - r)f'(r) - 2f(r) < 0.$$

Thus, $H(r)$ is strictly decreasing.

Investment in country A is irreversible. Once a foreign investor invests in country A, the capital cannot subsequently be relocated. Hence, foreign capital entering in period 1 becomes an immobile installed capital base in period 2.

Foreign capital invested in period 1 is productive in both periods. An investor entering in period 1 therefore obtains one unit of gross return in period 1 and another unit in period 2. An investor entering only in period 2 obtains one unit of gross return in period 2.

In contrast, the one unit of domestic capital initially present in country A is productive only in period 1 and depreciates completely before period 2.[10]

For simplicity, we assume that neither the government nor foreign investors discount future income. The government maximizes the sum of tax revenues over the two periods. Foreign investors maximize the sum of their after-tax returns.

[10]The lifetime of capital is two periods. The domestic capital at the beginning of period one is investment made in the previous period.

Taxation regimes

We distinguish between capital of different vintages. The investments from the previous period are considered domestic capital, while new investments in the current period are called foreign capital.

Under a *non-preferential taxation regime*, the government must impose the same tax rate on domestic and foreign capital within a given period. We denote the common tax rate in period t by t_{tn}.

A commitment to non-preferential taxation is a commitment to the taxation regime rather than to particular tax rates. Thus, the government may choose $t_{1n} \neq t_{2n}$, but cannot discriminate between installed and new capital within either period. Under a *preferential taxation regime*, the government can impose different tax rates on installed capital and on potential new foreign investment.

The government can commit to tax rates announced within the current period but cannot commit in period 1 to a particular period-2 tax rate.

Investment decisions

Since investors differ only in their outside returns, equilibrium investment decisions are characterized by cutoff values. Let r_1 denote the outside return of the marginal investor entering country A in period 1. Investors with $r < r_1$ enter in period 1. Hence, period-1 foreign investment is, $I_1 = \theta F(r_1)$.

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Let $r_2 \geq r_1$ denote the outside return of the marginal investor entering in period 2. Additional period-2 investment is

$I_2 = \theta \left[F(r_2) - F(r_1) \right]$.

Thus, total foreign capital located in country A by the end of period 2 is

$I_1 + I_2 = \theta F(r_2)$.

Government types

There is asymmetric information regarding the type of the host government. The government privately knows its type, whereas foreign investors do not. The government can be one of two types: a *commitment type*, denoted by G_C, or a *rational type*, denoted by G_R. A type G_C government is committed to following a non-preferential taxation regime throughout the two-period horizon. The commitment concerns the taxation regime and not particular future tax rates. In each period, a type G_C government chooses the common tax rate that maximizes tax revenue subject to the non-preferential constraint. We assume that a type G_C government does not distort its tax rate in order to signal its type. It follows the taxation strategy that it would optimally choose under complete information.

A type G_R government is not committed to either taxation regime. It chooses its taxation regime and tax rates to maximize total tax revenue. In particular, it can imitate the period-1 taxation policy of a type G_C government and subsequently switch to preferential taxation in period 2. In period 2, there is no future reputational benefit from maintaining a non-preferential regime. A type G_R government therefore adopts preferential taxation, fully taxes foreign capital installed in period 1, and independently chooses the tax rate offered to investors who remain outside country A.

Beliefs

At the beginning of period 1, foreign investors assign probability $\beta \equiv \Pr(G_C)$ to the event that the government is type G_C, and correspondingly, $\Pr(\mathrm{G_R}) \equiv 1 - \beta$, where $0 < \beta < 1$. β is *common knowledge* among investors and the government. After observing the government's period-1 taxation policy, investors update their beliefs. Let

$$\mu = \Pr\left(G_C \mid \text{period-1 policy}\right)$$

denote the posterior probability that the government is type G_C. Since a type G_C government never adopts preferential taxation, observing a preferential regime reveals the government to be type G_R:

$$\Pr\left(G_C \mid \text{preferential taxation in period 1}\right) = 0.$$

Suppose a type G_C government adopts its prescribed non-preferential policy with probability one and a type G_R government mimics this policy with probability λ. Bayes' rule then gives

$$\mu = \frac{\beta}{\beta + \lambda(1-\beta)}.$$

Note that in order to build a reputation, a rational-type government must also imitate the tax rate a commitment-type government would. Adopting a non-preferential regime, however, choosing a tax rate different from the commitment-type government also reveals its type.

Timing

The timing of the game is as follows.

1. Nature determines the government's type $G \in \{G_C, G_R\}$. The government observes its type but foreign investors do not.
2. The government announces its period-1 taxation policy.
3. Foreign investors observe the policy and update their beliefs regarding the government's type.
4. Investors decide whether to enter country A in period 1. Their decision is characterized by a cutoff r_1.

5. Period-1 production occurs and taxes are collected. The initial unit of domestic capital then depreciates completely.

6. The government announces its period-2 taxation policy.

7. Investors who remained outside country A decide whether to enter in period 2. Their decision is characterized by a cutoff $r_2 \geq r_1$.

8. Period-2 production occurs, taxes are collected, and the game ends.

Equilibrium

We solve for a *sequential equilibrium* of the game. An equilibrium specifies taxation strategies for both government types, investment strategies for foreign investors, and beliefs regarding the government's type after every observed history. Strategies are sequentially rational and beliefs are updated according to Bayes' rule at every information set reached with positive probability.

3 Complete-Information Benchmarks

Firstly, we characterize taxation and investment under complete information. Define

$$\Phi(r) = (1 - r)F(r) \tag{3}$$

The function $\Phi(r)$ represents the one-period tax revenue per unit mass of potential foreign investors when the marginal investor has outside return r. The cutoff structure follows from the standard skimming argument in dynamic screening models (Fudenberg, Levine, and Tirole 1985; Gul, Sonnenschein, and R. Wilson 1986). Since the payoff from waiting is increasing in the investor's outside return whereas the payoff from investing is not, if an investor with outside return r invests, every investor with outside return $r' < r$ also invests. Let

$$r^* \equiv \arg \max_{r \in [0,1]} \Phi(r).$$

For an interior solution,

$$(1 - r^*)f(r^*) - F(r^*) = 0.$$

or, equivalently

$$H(r^*) = 0. \tag{4}$$

Since $H'(r) < 0$, the solution r^* is unique.[11]

[11] This tax rate generates the maximum tax revenue in a one-period static model with no domestic capital.

3.1 Non-preferential Taxation

We begin with the second period. Suppose that investors with outside returns below r_{1n} entered in period 1. If the government does not wish to attract more investments, it sets $t_{2n} = 1$, yielding tax revenues of $\theta F(r_{1n})$.

Alternatively, suppose the government lowers the common tax rate and attracts additional investors. If the marginal period-2 investor has outside return r_2, then period-2 tax revenue is

$$T_{2n}^N = \theta(1 - r_2)F(r_2) = \theta\Phi(r_2). \tag{5}$$

Conditional on attracting additional investment, the optimal marginal investor is therefore r^* and the corresponding period-2 revenue is $\theta\Phi(r^*)$. Define $F(\underline{r})$ by

$$F(\underline{r}) = \Phi(r^*). \tag{6}$$

Since $\Phi(r^*) = (1 - r^*)F(r^*) < F(r^*)$, and F is strictly increasing, $\underline{r} < r^*$.

Thus, the government's second-period optimal taxation rule is

$$t_{2n} = \begin{cases} 1 - r^*, & r_{1n} < \underline{r}, \\ 1, & r_{1n} \geq \underline{r}. \end{cases} \tag{7}$$

Now, we solve the first-period problem.

3.1.1 Case I: relatively small foreign capital base

Suppose that the government chooses a first-period investment cutoff satisfying $r_{1n} < \underline{r}$. Investors correctly anticipate that the government will set $t_{2n} = 1 - r^*$ in period 2.

Consider the marginal investor with outside return r_{1n}. If she enters country A in period 1, her two-period payoff is $1 - t_{1n} + r^*$. If she waits, she earns $r_{1n} + r^*$. Therefore, indifference implies

$$t_{1n} = 1 - r_{1n}.$$

Total tax revenue is

$$T_n^l(r) = (1 - r)[1 + \theta F(r)] + \theta\Phi(r^*), \qquad r \leq \underline{r}. \tag{8}$$

For an interior solution,

$$\frac{\partial T_n^l(r)}{\partial r} = -1 + \theta[(1 - r)f(r) - F(r)] = 0. \tag{9}$$

Hence,

$$\theta H(r) = 1. \tag{10}$$

Let $r(\theta)$ denote the unique solution to $H(r(\theta)) = \frac{1}{\theta}$. Because $H'(r) < 0$, implicit differentiation gives

$$r'(\theta) = -\frac{1/\theta^2}{H'(r(\theta))} > 0. \tag{11}$$

Thus, first-period investment increases with the size of the potential foreign capital base.

Define the first threshold θ_1 by $r(\theta_1) = \underline{r}$.

$$\theta_1 = \frac{1}{H(\underline{r})} = \frac{1}{(1-\underline{r})f(\underline{r}) - F(\underline{r})}. \tag{12}$$

For $\theta < \theta_1$, we have $r(\theta) < \underline{r}$, and the interior solution is consistent with investors' anticipation of a low second-period tax. Lemma 1 describes the outcome formally.

Lemma 1. When the size of the foreign capital base is relatively small, $\theta < \theta_1$ [where θ_1 is defined by equation (12)], the equilibrium policy of the government is described as

$$r^*_{1n} = r(\theta), \tag{13}$$
$$t^*_{1n} = 1 - r(\theta), \tag{14}$$
$$t^*_{2n} = 1 - r^*. \tag{15}$$

The total tax revenue is

$$T^S_n(\theta) = [1 - r(\theta)][1 + \theta F(r(\theta))] + \theta\Phi(r^*), \tag{16}$$

3.1.2 Case II: intermediate foreign capital base

When θ reaches θ_1, the unconstrained optimum in Case I reaxches the switching point $r(\theta_1) = \underline{r}$. For $\theta > \theta_1$, the unconstrained optimum of the low-second-period tax strategy would imply $r(\theta) > \underline{r}$, which is inconsistent with the government incentive to lower the tax rate in period 2. The optimal choice within the low-tax continuation strategy is therefore the boundary $r^*_{1n} = \underline{r}$.

The period-1 tax is

$$t^*_{1n} = 1 - \underline{r}.$$

and the period-2 tax is

$$t^*_{2n} = 1 - r^*.$$

Total tax revenue in this case is

$$T^I_n(\theta) = (1 - \underline{r})[1 + \theta F(\underline{r})] + \theta\Phi(r^*) \tag{17}$$

Using $F(\underline{r}) = \Phi(r^*)$ this becomes

$$T_n^I(\theta) = 1 - \underline{r} + \theta\Phi(2 - \underline{r}). \tag{18}$$

Although the boundary strategy is optimal initially after θ_1, the government can alternatively choose a cutoff above $\underline{r}$ and induce investors to anticipate complete taxation of installed capital in period 2.

We next characterize that alternative.

3.1.3 Case III: large foreign capital base

Suppose the government induces a first-period cutoff $r_{1n} \geq \underline{r}$. Investors then anticipate $t_{2n} = 1$. The marginal investor obtains zero after-tax return from her installed capital in period 2. Hence, if she enters in period 1, her payoff is $1 - t_{1n}$. If she remains outside country A, she obtains her outside return in both periods, $2r_{1n}$. The indifference condition is therefore

$$1 - t_{1n} = 2r_{1n} \implies t_{1n} = 1 - 2r_{1n} \tag{19}$$

Total tax revenue is

$$\begin{aligned} T_n^L(r) &= (1 - 2r)[1 + \theta F(r)] + \theta F(r) \\ &= 1 - 2r + 2\theta(1 - r)F(r). \end{aligned} \tag{20}$$

The first-order condition is

$$-2 + 2\theta[(1 - r)f(r) - F(r)] = 0,$$

which again reduces to

$$\theta H(r) = 1. \tag{21}$$

Thus, the interior solution in Case III is the same function $r(\theta)$ defined by (10). However, note that

$$r(\theta) > \underline{r}, \qquad \theta > \theta_1. \tag{22}$$

so the solution is consistent with investors' expectation that the government fully taxes installed capital in period 2. The corresponding tax revenue is

$$T_n^L(\theta) = 1 - 2r(\theta) + 2\theta[1 - r(\theta)]F(r(\theta)). \tag{23}$$

At $\theta = \theta_1$, however, the Case-III strategy yields less revenue than the Case-II boundary strategy.

To see this, substitute $r(\theta_1) = \underline{r}$ and $F(\underline{r}) = \Phi(r^*)$ into the two revenue expressions. We obtain

$$T_n^L(\theta_1) - T_n^I(\theta_1) = -\underline{r}[1 + \theta_1\Phi(r^*)] < 0. \tag{24}$$

As $\theta \to \infty$, equations (4) and (21) implies $r(\theta) \to r^*$. Consequently,

$$\lim_{\theta\to\infty} \frac{T_n^L(\theta)}{\theta} = 2\Phi(r^*), \tag{25}$$

whereas

$$\lim_{\theta\to\infty} \frac{T_n^I(\theta)}{\theta} = \Phi(r^*)(2-\underline{r}). \tag{26}$$

Sine $\underline{r} > 0$, we have $2\Phi(r^*) > \Phi(r^*)(2-\underline{r})$. Hence, there is a threshold $\theta_2 > \theta_1$ satisfying

$$T_n^L(\theta_2) = T_n^I(\theta_2). \tag{27}$$

We now show that this threshold is unique. Define

$$D(\theta) \equiv T_n^L(\theta) - T_n^I(\theta).$$

Differentiating with respect to θ, we obtain

$$\begin{aligned} D'(\theta) &= \frac{dT_n^L(\theta)}{d\theta} - \frac{dT_n^l(\theta)}{d\theta}. \\ &= \{2[1-r(\theta)]F(r(\theta))\} - \{(2-\underline{r})\Phi(r^*)\} \\ &= 2\Phi(r(\theta)) - \Phi(r^*)(2-\underline{r}). \end{aligned}$$

Differentiating again we obtain

$$D''(\theta) = 2\Phi'(r(\theta))r'(\theta).$$

and now $r'(\theta) > 0$, we have $\operatorname{sgn} D''(\theta) = \operatorname{sgn} \Phi'(r(\theta))$. Using

$$\Phi(r) = (1-r)F(r),$$
$$\Phi'(r) = (1-r)f(r) - F(r),$$

we derive

$$D''(\theta) = 2[(1-r(\theta))f(r(\theta)) - F(r(\theta))]r'(\theta),$$

with $r'(\theta) > 0$. We know that r^* is the unique maximizer of Φ, so that $\Phi(r) > 0$ for $r < r^*$. Thus $D''(\theta)$ is *strictly convex*. Moreover, $D(\theta_1) < 0$ and $\lim_{\theta\to\infty} D(\theta) > 0$. Hence, there exist a unique $\theta_2 > \theta_1$ such that $D(\theta_2) = 0$.

Proposition 1 describes the outcome under a *non-preferential regime*.

Proposition 1. *Under the regularity condition* $(1-r)f'(r) < 2f(r)$*, the complete-information equilibrium under non-preferential taxation has three regions. There exist thresholds* $\theta_1 < \theta_2$ *such that:*

1. *For $\theta < \theta_1$.*

   $r^*_{1n} = r(\theta) < \underline{r}$,
   $t^*_{1n} = 1 - r(\theta)$,
   $t^*_{2n} = 1 - r^*$

   where $r(\theta)$ is defined by

   $\theta[(1 - r(\theta))f(r(\theta)) - F(r(\theta))] = 1.$

2. *For $\theta_1 \leq \theta \leq \theta_2$,*

   $r^*_{1n} = \underline{r}$
   $t^*_{1n} = 1 - \underline{r}$
   $t^*_{2n} = 1 - r^*.$

3. *For $\theta > \theta_2$,*

   $r^*_{1n} = r(\theta) > \underline{r}$,
   $t^*_{1n} = 1 - 2r(\theta)$,
   $t^*_{2n} = 1.$

The first threshold is

$$\theta_1 = \frac{1}{(1 - \underline{r})f(\underline{r}) - F(\underline{r})},$$

where

$F(\underline{r}) = (1 - r^*)F(r^*).$

The second threshold θ_2 is the unique solution to

$T^L_n(\theta_2) = T^I_n(\theta_2).$

Furthermore, $\frac{dr(\theta)}{d\theta} > 0$.

Proof. The proof follows from the preceding discussion. □

3.2 Preferential Taxation

Suppose now that the government adopts preferential taxation. Consider period 2. Suppose investors with outside returns r_{1p} entered country A in period 1. The government fully taxes the return from this installed capital. Let $r_{2p} \geq r_{1p}$ denote the marginal investor entering in period 2. The tax rate applicable to new foreign investment is

$t_{2p} = 1 - r_{2p}.$

Conditional on r_{1p}, the government chooses r_{2p} to maximize

$$(1 - r_{2p})[F(r_{2p}) - F(r_{1p})]. \tag{28}$$

Define

$$q(r) \equiv \arg \max_{z \in [r,1]} (1 - z)[F(z) - F(x)]. \tag{29}$$

An interior solution satisfies

$$[1 - q(r)]f(q(r)) = F(q(r)) - F(r). \tag{30}$$

Thus,

$$r_{2p} = q(r_{1p}).$$

Consider the marginal period-1investor. If he enters immediately, he obtains $1 - t_{1p}$, because his period-2 returns are fully taxed. If he waits, he receives r_{1p} in period 1 and $q(r_{1p}$ in period 2. Hence, the condition for indifference implies

$$1 - t_{1p} = r_{1p} + q(r_{1p}),$$

or

$$t_{1p} = 1 - r_{1p} - q(r_{1p}). \tag{31}$$

The government imposes a tax rate equal to one on the initial domestic capital in period 1. Thus, the total tax revenue is

$$\begin{aligned} T_p(r) =& 1 + \theta[1 - r - q(r)]F(r) + \theta F(r) \\ &+ \theta[1 - q(r)][F(q(r)) - F(r)]. \end{aligned}$$

Collecting terms we get

$$T_p(r) = 1 + \theta\{(1 - r)F(r) + [1 - q(r)]F(q(r))\}. \tag{32}$$

Let

$$r_p^* \in \arg \max_{r \in [0,1]} \{\Phi(r) + \Phi(q(r))\}.$$

Define $G_p \equiv \Phi(r_p^*) + \Phi(q(r_o^*))$.. The equilibrium tax revenue under preferential regime is

$$T_p^*(\theta) = 1 + \theta G_p. \tag{33}$$

Since $\Phi(r) \leq \Phi(r^*)$ for every r, we have

$$G_p \leq 2\Phi(r^*). \tag{34}$$

Under an interior equilibrium, the preceding inequality is strict, $G_p < 2\Phi(r^*)$.

3.3 Non-preferential versus Preferential Taxation

The comparison between the two taxation regimes reflects two opposing forces.

Under preferential taxation, the government can fully tax installed capital while simultaneously offering lower tax rates to new investors. This flexibility increases current tax revenue but also gives investors an incentive to delay investment.

Under non-preferential taxation, lowering the future tax rate to attract new investors also lowers the tax applied to installed capital. This reduces the government's incentive to offer more favourable treatment in the future and therefore reduces investors' incentive to delay.

The cost of non-preferential taxation arises in period 1 because lowering the tax rate to attract foreign investors also requires lowering the tax rate imposed on the one unit of domestic capital.

For a sufficiently large foreign capital base, however, the initial unit of domestic capital becomes relatively unimportant.

$$\lim_{\theta\to\infty} \frac{T_n^*}{\theta} = 2\Phi(r^*). \tag{35}$$

Under preferential taxation,

$$\lim_{\theta\to\infty} \frac{T_p^*(\theta)}{\theta} = G_p < 2\Phi(r^*). \tag{36}$$

Proposition 2. *For a sufficiently large potential foreign capital base, a non-preferential regime generates greater tax revenue than a preferential regime, $T_n^*(\theta) > T_p^*(\theta)$. However, a preferential taxation regime generates greater tax revenues when the foreign capital base is relatively small. Continuity and monotonicity of tax revenues under two regimes imply that there is a unique threshold parameter θ_c satisfying*

$T_n^*(\theta_c) = T_p^*(\theta_c)$.

such that

$T_p^*(\theta) > T_n^*(\theta), \qquad \theta < \theta_c$

$T_n^*(\theta) < T_n^*(\theta), \qquad \theta > \theta_c.$

4 Reputation

We now introduce incomplete information regarding the government type. A type G_C government follows the complete-information non-preferential policy characterization in Proposition 1. A type G_R government can either reveal its type in period 1 by adopting preferential taxation or mimic the period-1 taxation policy of the commitment type. (including the tax rate.) The purpose of

mimicking is to offset investors' beliefs regarding period-2 taxation. If investors attach a sufficiently high probability to the government being type G_C, they expect less favourable treatment from delaying investment. This increases first-period investment and creates a larger installed capital base than a type G_R government can exploit in period 2.

Suppose the period-1 investment cutoff is r. A rational government that reaches period 2 switches to preferential taxation. It fully taxes forign capital installed in period 1 and chooses the tax applicable to new foreign investment.

The tax on new forign investment is $t^f_{2R}(t) = q(r)$, and the tax on installed capital is 1, $t^d_{2R} = 1$. The marginal new investor is $q(r)$, defined by

$$[1 - q(r)]f(q(r)) = F(q(r)) - F(r). \tag{37}$$

An important property of $q(r)$ is that it *monotonically increases* with the installed capital cutoff. Differentiating equation (37) gives

$$q'(r) = \frac{f(r)}{2f(q(r)) - [1 - q(r)]f'(q(r))} > 0, \tag{38}$$

where the inequality follows from the regularity condition.

Case I: $\theta < \theta_1$

In case I, the commitment type chooses

$$r_C(\theta) = r(\theta) < \underline{r},$$

and sets the tax rate

$$t_{1C} = 1 - r_C(\theta),$$

followed by

$$t_{2c} = 1 - r^*.$$

Suppose a type G_R government mimics the first-period tax of G_C. Let μ denote investors' posterior probability that the government is type G_C. Let r^S_R, denote the marginal period-1 investor. If this investor eneters in period 1, her expected payoff is $1 - t_{1C} + \mu r^*$. If she waits, she obtains r^S_R during period 1. In period 2 she receives r^* if the government is type G_C, and $q(r^S_R)$ if the government is type G_R. Thus the following equality holds for the marginal investor:

$$1 - t_{1C} + \mu r^* = r^S_R + \mu r^* + (1 - \mu)q(r^S_R).$$

Using $1 - t_{1C} = r_C(\theta)$. We obtain

$$r_C(\theta) = r^S_R(\theta, \mu) + (1 - \mu)q(r^S_R(\theta, \mu)) \tag{39}$$

At $\mu = 1$,

$r_R^S(\theta, 1) = r_C(\theta)$.

Differentiating equation (39) with respect to μ gives

$$\frac{\partial r_R^S}{\partial \mu} = \frac{q(r_R^S)}{1 + (1-\mu)q'(r_R^S)} > 0.$$

Thus, stronger reputation increases first-period investment.

Case II: $\theta_1 \leq \theta \leq \theta_2$

In case II, the commitment type sets $r_C = \underline{r}$, $t_{1C} = 1 - \underline{r}$ and $t_{2C} = 1 - r^*$. Suppose a rational government mimics this policy. Let $r_R^I(\theta, \mu)$ denote the first-period investment cutoff. The same argument as in Case I gives

$$\underline{r} = r_R^I(\theta, \mu) + (1-\mu)q(r_R^I(\theta, \mu)). \tag{40}$$

At $\mu = 1$, $r_R^I(\theta, 1) = \underline{r}$. Furthermore,

$$\frac{\partial r_R^I(\theta)}{\partial \theta} = \frac{q(r_R^I)}{1 + (1-\mu)q'(r_R^I)} > 0,$$

that is, investment in period-1 increases with a more favourable reputation.

Case III: $\theta > \theta_2$

In Case III, the commitment type chooses the level of investments in period 1 such that

$r_C(\theta) = r(\theta) > \underline{r}$,

by setting

$t_{1C} = 1 - 2r_C(\theta)$.

In period 2, the commitment typefully taxes installed capital and attracts no additional investment:

$t_{2C} = 1$.

Suppose a rational government mimics the commitment type in period 1. Let $r_R^L(\theta, \mu)$ denote the marginal period 1 investor. If the investor enters immediately, her period 2 after-tax return is zero regardless of the government type. Her payoff is therefore $1 - t_{1C}$. If she waits, she receives her ourside return in period 1. If the government turns out to be type G_C, she remains outside in period 2 and obtains her outside return again. If the government is type G_R, she enters in period 2 and receives $q(r_R^L)$. hence, the indiffernce condition is:

$$1 - t_{1C} = r_R^L + \mu r_R^L + (1-\mu)q(r_R^L). \tag{41}$$

Since $1 - t_{1C} = 2r_C(\theta)$, the cutoff satisfies

$$2r_C(\theta) = (1+\mu)r_R^L(\theta,\mu) + (1-\mu)q(r_R^L(\theta,\mu)). \tag{42}$$

Abserbe that at $\mu = 1$, we have $r_R^L(\theta,1) = r_C(\theta)$. Differentiating equation (42) we obtain

$$\frac{\partial r_R^L(\theta,\mu)}{\partial \mu} = \frac{q(r_R^L) - r_R^L}{1+\mu+(1-\mu)q'(r_R^L)} > 0. \tag{43}$$

Thus, a favourable reputation increases first-period investment in all three regions.

For any of the three cases, let $t_{1C}(\theta)$ denote the commitment type's period 1 tax and let $r_R(\theta,\mu)$ denote the corresponding first-period investment cutoff. The rational government's first-period revenue from mimicking is

$$T_{1R}(\theta,\mu) = t_{1C}(\theta)[1+\theta F(r_R(\theta,\mu))]. \tag{44}$$

In period 2, it fully taxes the installed foreign capital and attracts additional investment up to $q(r_R)$. Hence,

$$T_{2R}(\theta,\mu) = \theta F(r_R) + \theta[1-q(r_R)][F(q(r_R)) - F(r_R)]. \tag{45}$$

Total revenue from mimicking is therefore

$$\begin{aligned} T_R(\theta,\mu) =& t_{1C}(\theta)[1+\theta F(r_R)] + \theta F(r_R) \\ &+ \theta[1-q(r_R)][F(q(r_R)) - F(r_R)]. \end{aligned} \tag{46}$$

If the rational government instead reveals its type by adopting preferential taxation in period 1, it obtains

$$T_p^*(\theta) = 1 + \theta G_p. \tag{47}$$

Lemma 1. *For each of the three regimes, the rational government's revenue from mimicking the commitment type is strictly increasing in the posterior belief μ.*

Proof. We have already established that

$$\frac{\partial r_R(\theta,\mu)}{\partial \mu} > 0.$$

in all three cases.

Period 1 revenue

$$t_{1C}(\theta)[1+\theta F(r_R)] \tag{48}$$

is strictly increasing in r_R whenever $t_{1C} > 0$.

Now consider period 2 revenue. Define

$$V_2(r) = F(r) + [1 - q(r)][F(q(r)) - F(r)].$$

Differentiating we obtain

$$V_2'(r) = q(r)f(r) + q'(r)\{(1 - q(r))f(q(r)) - F(q(r)) + F(r)\}.$$

We also know that $q(r)$ is chosen optimally. Therefore,

$$\frac{\partial V_2}{\partial q} = -[F(q) - F(r)] + (1 - q)f(q) = 0,$$

so,

$$(1 - q)f(q) - [F(q) - F(r)] = 0.$$

Therefore, we have

$$V_2'(r) = q(r)f(r) > 0.$$

Thus, both period-1 and period-2 revenues are increasing in the first period investment cutoff. Since r_R is strictly increasing in μ, $T_R(\theta, \mu)$ is strictly increasing in μ. □

Define the critical posterior belief

$$\beta^*(\theta) \equiv \inf\{\mu \in [0, 1] : T_R(\theta, \mu) \geq T_p^*(\theta)\}.$$

Whenever $T_R(\theta, 0) < T_p^*(\theta) < T_R(\theta, 1)$, the threshold satisfies

$$0 < \beta^*(\theta) < 1$$

and is uniquely determined by

$$T_R(\theta, \beta^*(\theta)) = T_p^*(\theta). \tag{49}$$

Proposition 3 describes the outcome formally. This is one of the most important results of the paper.

Proposition 3. *Consider any of the three complete-information regions described in Proposition 1. Suppose*

$$T_R(\theta, 0) < T_p^*(\theta) < T_R(\theta, 1).$$

Then there exists a unique critical posterior $\beta^*(\theta) \in (0, 1)$ such that:

1. *if $\mu > \beta^*(\theta)$, the rational government strictly prefers to mimic the commitment type;*
2. *if $\mu = \beta^*(\theta)$, the rational government is indifferent between mimicking and revealing its type; and*
3. *if $\mu < \beta^*(\theta)$, the rational government strictly prefers to reveal its type and adopt preferential taxation.*

4.1 Semi-separating equilibrium

Suppose the prior belief satisfies $\beta < \beta^*(\theta)$. A pooling equilibrium in which the rational government mimics with probability one cannot be sustained, because the posterior following the non-preferential policy would remain equal to $\hat{\beta}$, which is below the belief required to make mimicking optimal.

Suppose instead that the rational government mimics the commitment type with probability $\lambda \in (0, 1)$. The commitment type chooses its non-preferential policy with probability one. Therefore, after observing the commitment action, Bayes' rule gives

$$\mu = \frac{\beta}{\beta + \lambda(1 - \beta)}. \tag{50}$$

For the rational government to mix, it must be indifferent between mimicking and reveaking. Hence,

$$\mu = \beta^*(\theta). \tag{51}$$

Combining equations (50) and (51) gives

$$\lambda = \frac{\beta[1 - \beta^*(\theta)]}{\beta^*(1 - \beta)}. \tag{52}$$

Differentiating with respect to β yields

$$\frac{\partial \lambda}{\partial \beta} = \frac{1 - \beta^*(\theta)}{\beta^*(\theta)(1 - \beta)} > 0. \tag{53}$$

Proposition 4 describes the outcome formally.

Proposition 4. *Suppose an interior reputational threshold $\beta^*(\theta)$ exists and $\beta < \beta^*(\theta)$. Then there exists a semi-separating equilibrium in which the rational government adopts the commitment type's period-1 non-preferential policy with probability*

$$\lambda = \frac{\beta[1 - \beta^*(\theta)]}{\beta^*(\theta)(1 - \beta)}.$$

Furthermore,

$$\frac{\partial \lambda}{\partial \beta} = \frac{1 - \beta^*(\theta)}{\beta^*(\theta)(1 - \beta)^2} > 0.$$

Thus, the probability that the rational governmentbuilds a reputation is increasing in investors' prior belief that the government is committed.

5 Uniformly Distributed Returns

We now illustrate the general result by considering the uniform distribution of outside returns:

$$F(r) = r, \qquad f(r) = 1, \qquad r \in [0, 1]. \tag{54}$$

All other parameters of the model remain as before.

The optimal static one-period tax revenue per unit of foreign capital, described by equation (3) becomes

$$\Phi(r) = r(1 - r) \tag{55}$$

Thus, the corresponding first-order condition for choosing the optimal marginal investor is:

$$H(r) = 1 - 2r. \tag{56}$$

The static revenue-maximizing cutoff r^* solves

$$H(r^*) = 0. \tag{57}$$

Therefore, the marginal investor in a one-period static model would be

$$r^* = \frac{1}{2},$$

and the corresponding maximum static tax revenue per unit mass of foreign investors is

$$\Phi(r^*) = \frac{1}{4}. \tag{58}$$

The switching cutoff $\underline{r}$ is defined by

$$F(\underline{r}) = \Phi(r^*). \tag{59}$$

Since $F(r) = r$, we have

$$\underline{r} = \frac{1}{4}. \tag{60}$$

The interior cutoff satisfies

$$\theta H(r(\theta)) = 1.$$

Thus,

$$\theta[1 - 2r(\theta)] = 1,$$

which gives

$$r(\theta) = \frac{1}{2} - \frac{1}{2\theta}. \tag{61}$$

The first threshold is determined by

$r(\theta_1) = \underline{r}$.

Substituting from equations (60) and (61), we obtain

$$\frac{1}{2} - \frac{1}{2\theta_1} = \frac{1}{4},$$

and therefore

$$\theta_1 = 2. \tag{62}$$

5.1 Non-preferential Taxation

We now derive the equilibrium taxation strategy in each of the three regions characterized in Proposition 1.

Case I: $1 \leq \theta \leq 2$

For $\theta \leq 2$, $r(\theta) \leq \frac{1}{4}$. The government therefore follows the strategy of attracting more investments in period 2 as well. The equilibrium period 1 cutoff is

$$r_{1n}^* = \frac{1}{2} - \frac{1}{2\theta}. \tag{63}$$

Since $t_{1n}^* = 1 - r_{1n}^*$, the period-1 tax is

$$t_{1n}^* = \frac{1}{2} + \frac{1}{2\theta}. \tag{64}$$

The government lowers the common tax rate in period 2 to

$$t_{2n}^* = 1 - r^* = \frac{1}{2}. \tag{65}$$

The mass of foreign investors entering in period 1 is

$$I_1^* = \theta r_{1n}^* = \frac{\theta - 1}{\theta}. \tag{66}$$

Total tax revenue is

$$\begin{aligned} T_n^S(\theta) &= t_{1n}^*(1 + \theta r_{1n}^*) + \frac{\theta}{4} \\ &= \frac{1 + 2\theta + 2\theta^2}{4\theta} \end{aligned} \tag{67}$$

Case II: $2 \leq \theta \leq \theta_2$

For $\theta > 2$, the unconstrained solution

$$r(\theta) = \frac{1}{2} - \frac{1}{2\theta}$$

exceeds the switching cutoff 1/4. Therefore, conditional on following the low second-period tax strategy, the government chooses the boundary cutoff

$$r_{1n}^* = \frac{1}{4}. \tag{68}$$

The corresponding period-1 tax is

$$t_{1n}^* = \frac{3}{4}, \tag{69}$$

while the period-2 tax remains

$$t_{2n}^* = \frac{1}{2}. \tag{70}$$

Total tax revenue is

$$\begin{aligned} T_n^I &= \frac{3}{4}\left(1 + \frac{\theta}{4}\right) + \frac{\theta}{4} \\ &= \frac{3}{4} + \frac{7\theta}{16}. \end{aligned} \tag{71}$$

Case III: $\theta \geq \theta_2$

Consider now the strategy in which investors anticipate complete taxation of installed foreign capital in period 2.

The interior cutoff is again

$$r_{1n} = \frac{1}{2} - \frac{1}{2\theta}. \tag{72}$$

The first-period tax rate is

$$t_{1n} = 1 - 2r_{1n} = \frac{1}{\theta}. \tag{73}$$

In period 2, the government fully taxes the installed foreign capital: $t_{2n} = 1$. Total tax revenue is

$$\begin{aligned} T_n^L(\theta) &= \frac{1}{\theta}\left[1 + \theta\left(\frac{1}{2} - \frac{1}{2\theta}\right)\right] + \theta\left(\frac{1}{2} - \frac{1}{2\theta}\right) \\ &= \frac{1+\theta^2}{2\theta} \end{aligned} \tag{74}$$

The threshold θ_2 is obtained by equating the revenues in Cases II and III:

$$\frac{3}{4} + \frac{7\theta_2}{16} = \frac{1+\theta_2^2}{2\theta_2}.$$

Thus θ_2 satisfies

$$\theta_2^2 - 12\theta_2 + 8 = 0,$$

that is

$$\theta_2 = 6 + 2\sqrt{7} \tag{75}$$

Thus, the equilibrium tax revenue under non-preferential taxation is

$$T_n^*(\theta) = \begin{cases} \frac{1+2\theta+2\theta^2}{4\theta}, & 1 \le \theta \le 2, \\ \frac{3}{4} + \frac{7\theta}{16}, & 2 \le \theta \le 6 + 2\sqrt{7}, \\ \frac{1+\theta^2}{2\theta}, & \theta \ge 6 + 2\sqrt{7}. \end{cases} \tag{76}$$

The corresponding fist-period tax rate is

$$t_{1n}^*(\theta) = \begin{cases} \frac{1}{2} + \frac{1}{2\theta}, & 1 \le \theta \le 2, \\ \frac{3}{4}, & 2 \le \theta \le 6 + 2\sqrt{7}, \\ \frac{1}{\theta}, & \theta \ge 6 + 2\sqrt{7}. \end{cases} \tag{77}$$

Similarly, the period-1 investment cutoff is

$$r_{1n}^*(\theta) = \begin{cases} \frac{1}{2} - \frac{1}{2\theta}, & 1 \le \theta \le 2, \\ \frac{1}{4}, & 2 \le \theta \le 6 + 2\sqrt{7}, \\ \frac{1}{2} - \frac{1}{2\theta}, & \theta \ge 6 + 2\sqrt{7} \end{cases} \tag{78}$$

Finally, the second-period tax is

$$t_{2n}^*(\theta) = \begin{cases} \frac{1}{2}, & 1 \le \theta \le 6 + 2\sqrt{7}, \\ 1, & \theta \ge 6 + 2\sqrt{7} \end{cases} \tag{79}$$

5.2 Preferential taxation

Suppose a fraction r_{1p} of foreign investors enters country A in period 1. In period 2, the government imposes a tax rate equal to one on the foreign capital installed in period 1 and chooses the tax rate on new foreign investment.

Let r_{2p} denote the marginal investor entering in period 2. Since outside returns are uniformly distributed, the government's period-2 revenue from new investment is

$$\theta(1 - r_{2p})(r_{2p} - r_{1p}).$$

The first-order condition is

$$1 + r_{1p} - 2r_{2p} = 0,$$

and therefore, the optimal tax rate on new investments in period 2 is

$$r_{2p} = \frac{1 + r_{1p}}{2}. \tag{80}$$

The corresponding tax rate on new investment is

$$t_{2p} = 1 - r_{2p} = \frac{1 - r_{1p}}{2}. \tag{81}$$

The marginal period-1 investor is indifferent between investing immediately and waiting:

$$1 - t_{1p} = r_{1p} + r_{2p} \tag{82}$$

Substituting (80),

$$1 - t_{1p} = r_{1p} + \frac{1 + r_{1p}}{2}.$$

Therefore,

$$r_{1p} = \frac{1 - 2t_{1p}}{3}. \tag{83}$$

Total tax revenue is

$$T_p = 1 + \theta t_{1p} r_{1p} + \theta \left(\frac{1 - r_{1p}}{2} \right)^2. \tag{84}$$

Substituting using (83) and maximizing with respect to t_{1p} gives

$$t^*_{1p} = -\frac{1}{10}. \tag{85}$$

Hence,

$$r^*_{1p} = \frac{2}{5}. \tag{86}$$

The period-2 marginal return is

$$r^*_{2p} = \frac{7}{10}, \tag{87}$$

and the period-2 tax on new investment is

$$t^*_{2p} = \frac{3}{10}. \tag{88}$$

The equilibrium total tax revenue under preferential taxation is

$$T^*_p(\theta) = 1 + \frac{9\theta}{20}. \tag{89}$$

5.3 Comparison of taxation regimes

Equilibrium tax revenues under a non-preferential regime are described by equation (76), while the equilibrium tax revenue under a preferential regime is described by equation (89). Proposition 6 formally describes the comparison of tax revenues between non-preferential and preferential regimes.

Proposition 6. *Under the uniform distribution, preferential taxation generates greater total tax revenue when* $\theta < \theta_c \equiv 10 + 3\sqrt{10}$*, whereas non-preferential taxation generates greater tax revenue when* $\theta > \theta_c$*. At* $\theta = \theta_c$*, the government is indifferent between the two regimes.*

Under a preferential taxation regime, the government has the flexibility of setting a high tax rate on the domestic capital base and, at the same time, attracting new investments as well in period 1. Under a non-preferential regime, the government gains the commitment power of not lowering the tax rate in period 2—this commitment increases investments in period 1 and, in turn, increases tax revenues. When the size of the foreign capital base is relatively small, flexibility of a preferential regime dominates. However, when the size of the foreign capital base is sufficiently large, the commitment power secured from a non-preferential regime becomes more valuable to the government.

5.4 Reputation

We next specialize the reputational equilibrium to the uniform distribution. Suppose that a rational government mimics the first-period taxation policy of the commitment type. Let μ denote investors' posterior probability that the government is type G_C.

Case I: $1 \leq \theta \leq 2$

The commitment type sets

$$t_{1C} = \frac{1}{2} + \frac{1}{2\theta}, \quad \text{and} \quad t_{2C} = \frac{1}{2}.$$

Suppose the rational government announces the same period-1 tax. Let r_{1R} denote the marginal investor entering in period 1. If the government turns out to be rational, its optimal period-2 tax on new foreign investment is

$$t_{2R}^f = \frac{1 - r_{1R}}{2} \tag{90}$$

Hence the return received by the marginal investor in period 2 is

$$\frac{1 + r_{1R}}{2}.$$

The marginal investor's indifference condition implies

$$\frac{1}{2} - \frac{1}{2\theta} = r_{1R} + (1 - \mu)\frac{1 + r_{1R}}{2}. \tag{91}$$

Solving for r_{1R},

$$r_{1R}(\theta,\mu) = \max\left\{0, \frac{\mu}{3-\mu} - \frac{1}{\theta(3-\mu)}\right\}. \tag{92}$$

Therefore,

$$\frac{\partial r_{1R}}{\partial \mu} = \frac{3-\frac{1}{\theta}}{(3-\mu)^2} > 0$$

whenever the cutoff is interior. Positive first-period investment occurs if and only if

$$\mu > \frac{1}{\theta}.$$

The rational government's period-1 revenue is

$$T_{1R}(\theta,\mu) = \left(\frac{1}{2} + \frac{1}{2\theta}\right)[1+\theta r_{1R}].$$

After switching to preferential taxation in period 2, its revenue is

$$T_{2R}(\theta,\mu) = \frac{\theta}{4}(1+r_{1R})^2.$$

Therefore, the total tax revenue is

$$T_R^S(\theta,\mu) = \left(\frac{1}{2} + \frac{1}{2\theta}\right)[1+\theta r_{1R}] + \frac{\theta}{4}(1+r_{1R})^2. \tag{93}$$

Define θ^* by

$$T_R^S(\theta^*,1) = T_p^*(\theta^*). \tag{94}$$

For $\theta < \theta^*$, even a perfect reputation is insufficient to make mimicking optimal. Thus, the government adopts preferential taxation regimes when $\theta < \theta^*$.

For $\theta^* \leq \theta \leq 2$, there exists a unique $\beta^*(\theta)$ such that

$$T_R^S(\theta, \beta^*(\theta)) = 1 + \frac{9\theta}{20}.$$

Case II: $2 \leq \theta \leq 6 + 2\sqrt{7}$

The commitment type sets

$$t_{1C} = \frac{3}{4} \quad \text{and} \quad t_{2C} = \frac{1}{2}.$$

Suppose a rational government mimics the commitment type. The marginal investor satisfies

$$\frac{1}{4} = r_{1R} + (1-\mu)\frac{1+r_{1R}}{2}.$$

Solving,

$$r_{1R}(\mu) = \max\left\{0, \frac{2\mu - 1}{2(3-\mu)}\right\}. \tag{95}$$

When $\mu = 1$, $r_{1R}(1) = 1/4$.

The rational government's first-period revenue under perfect reputation is

$$T_{1R}(\theta, 1) = \frac{3}{4}\left(1 + \frac{\theta}{4}\right) = \frac{3}{4} + \frac{3\theta}{16}.$$

After swtching to preferential taxation, its period-2 revenue is

$$T_{2R}(\theta, 1) = \frac{\theta}{4}\left(1 + \frac{1}{4}\right)^2 = \frac{25\theta}{64}.$$

Total revenue is therefore,

$$T_R^I(\theta, 1) = \frac{3}{4} + \frac{37\theta}{64}. \tag{96}$$

The comparison shows that this tax revenue strictly dominates tax revenues under preferential regime,

$$T_R^I(\theta, 1) - T_p^*(\theta) = \frac{41\theta - 80}{320} > 0 \qquad \text{for } \theta \geq 2.$$

Thus, for sufficiently favourable beliefs make reputatoon building profitable.

For each θ in this region, define $\beta^*(\theta)$ by

$$T_R^I(\theta, \beta^*(\theta)) = 1 + \frac{9\theta}{20}. \tag{97}$$

Case III: $\theta \geq 6 + 2\sqrt{7}$

The commitment type sets

$$t_{1C} = \frac{1}{\theta} \qquad \text{and} \qquad t_{2C} = 1.$$

The complete-information first-period cutoff is

$$r_C(\theta) = \frac{1}{2} - \frac{1}{2\theta}.$$

Suppose the rational government mimics the commitment type. Let r_{1R} denote the period-1 cutoff. The marginal investors indifference condition is

$$1 - \frac{1}{\theta} = (1+\mu)r_{1R} + (1-\mu)\frac{1 + r_{1R}}{2} \tag{98}$$

solving gives

$$r_{1R}(\theta,\mu)=\frac{1+\mu-\frac{2}{\theta}}{3+\mu}. \tag{99}$$

We can see that at $\mu=1$,

$$r_{1R}(\theta,1)=\frac{1}{2}-\frac{1}{2\theta}.$$

Moreover,

$$\frac{\partial r_{1R}}{\partial\mu}=\frac{2+\frac{2}{\theta}}{(3+\mu)^2}>0. \tag{100}$$

As before, the total tax revenue is

$$T_R^L(\theta,\mu)=\frac{1}{\theta}[1+\theta r_{1R}]+\frac{\theta}{4}(1+r_{1R})^2. \tag{101}$$

It can be easily checked that $T_R^L(\theta,1)>1+\frac{9\theta}{20}$, thus there exists a unique posterior threshold $\beta^*(\theta)$ satisfying

$$T_R^L(\theta,\beta^*))=1+\frac{9\theta}{20}.$$

It is clear from the preceding discussion that as long as $\theta>\theta_C^*$ (θ_C^* is defined by equation (94), there exists a unique $\beta^*(\theta)$ associated with each θ such that when investors' beliefs, μ, are favourable enough, $\mu\geq\beta^*(\theta)$, a rational government mimics taxation strategy of commitment-type government.

When $\theta>\theta_C^*$, however, if the beliefs are not favourable enough, $\mu\leq\beta^*(\theta)$, it is not beneficial for a rational government to mimic commitment-type government. When $\mu=\beta^*(\theta)$, the government is indifferent between adopting preferential taxation and mimicking commitment-type government. When $\mu<\beta^*(\theta)$, rational government adopts a mixed strategy. Suppose the rational goivernment mimics with probability $\lambda\in(0,1)$. Bayes' rule implies

$$\mu=\frac{\beta}{\beta+\lambda(1-\beta)}.$$

For a rational government to mix, the posterior must satisfy $\mu=\beta^*(\theta)$. Therefore,

$$\lambda=\frac{\beta[1-\beta^*(\theta)]}{\beta^*(\theta)(1-\beta)}. \tag{102}$$

Furthermore,

$$\frac{\partial\lambda}{\partial\beta}=\frac{1-\beta^*(\theta)}{\beta^*(\theta)(1-\beta)^2}>0. \tag{103}$$

Proposition 7 describes the outcome formally.

Proposition 7. *There exists a critical size of foreign capital base, θ_C^*, such that, whenever $\theta \geq \theta_C^*$, there is a unique critical belief, $\beta^*(\theta)$, associated with each θ, such that, if the belief is favourable enough, $\mu \geq \beta^(\theta)$, a rational government minics the taxation strategy of the commitment type. When $\theta < \theta_C^*$, a rational government adopts preferential taxation strategy. The criticsl capital aize, θ_C^*, is determined by the equality (94), $T_R^S(\theta_C^*, 1) = T_p(\theta_C^*)$. When $\theta \geq \theta_C^*$, howwver, $\mu < \beta^*(\theta)$, a rational government mimics with probability λ, where λ is described by (102). The probability of mimicking λ is larger for a larger prior belief β.*

6 Conclusion

Institutional commitment to non-preferential taxation can alleviate the dynamic-inconsistency and hold-up problems associated with the taxation of foreign investment. In this paper, we show that reputation can provide an alternative source of discipline. When investors are uncertain whether the host government is committed to non-preferential taxation, an opportunistic government may mimic the taxation strategy of a commitment type. By initially adopting non-preferential taxation, the government reduces investors' incentives to delay investment in anticipation of more favorable future tax treatment and thereby attracts a larger initial investment base.

The incentive to build such a reputation depends on the size of the potential foreign capital base and on investors' prior beliefs about the government's type. When the foreign capital base is sufficiently small, the immediate benefit of retaining the flexibility to discriminate dominates the value of reputation, and the opportunistic government reveals its type and adopts preferential taxation. As the foreign capital base becomes larger, reputation becomes more valuable because it induces greater initial investment. When investors' prior belief in the commitment type is sufficiently high, the opportunistic government mimics with certainty; for lower beliefs, a semi-separating equilibrium may arise. Most importantly, reputation can sustain non-preferential taxation even when full commitment to a non-preferential regime yields lower tax revenue than preferential taxation. Reputation therefore provides an endogenous form of partial commitment: the government can obtain some of the investment-inducing benefits of non-preferential treatment while preserving the flexibility to discriminate once investment has become irreversible.

The distinction between reputational and institutional commitment also clarifies why the two mechanisms need not be substitutes. Non-preferential taxation disciplines policy by restricting the government's ability to discriminate between installed and prospective capital, whereas reputation disciplines policy through investors' beliefs about future government behavior. Institutional commitment may therefore remain valuable even when reputational incentives can sustain non-preferential behavior. Moreover, such commitment may generate credibility benefits beyond foreign-investment taxation, including in areas such as sovereign borrowing or trade policy. Exploring these cross-policy effects, and more generally the interaction between reputational and institutional sources of

commitment, provides a natural direction for future research.

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