# Intermediaries and Endemic Corruption

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## 1. Introduction

Most corrupt practices involve more than one agent (e.g. bribery)
A public official allows a private agent a privilege which that agent is legally not entitled to, in return for a payment in cash or kind

E,g., Importing a dutiable good without paying the duty
or, obtaining information on rival bids for a government contract

Such corruption requires cooperation between two parties
- -cooperation between the official and the agent seeking the privilege
- -must involve agreement on a price
- -presupposes an economic transaction between the parties

Characteristic of this "market" transaction
- -agents do not publicly go about searching for trading partners
- -information about potential partners is difficult to acquire
- -some individuals find it profitable to specialise in the acquisition and dissemination of such information

"Endemic" corruption
- -a well-developed network of intermediaries
- -locate potential partners and negotiate prices
- -corruption and rent-seeking an attractive and lower-cost alternative to legal activities

"Deserving" agents therefore choose corrupt transactions over legal ones ensuring that the intermediaries stay in business

## 2. Basic Idea

A simple model of intermediation in corruption activities

Officials distribute a public benefit and some of them are dishonest
- intermediaries have knowledge about the identities of corrupt officials
- act as a conduit between officials and the public applying for the benefit

All members of the public value the benefit, only some are entitled to it

Corruption: official knowingly confers the benefit to someone not entitled

Existence of intermediaries increases participation in corrupt acts
- not surprising

Deserving candidates employ intermediaries too
- service charge

## 2. Model

Intermediaries have no function in an economy where all government officials are corrupt and willing to accept bribes indiscriminately from members of the public. They assume a meaningful role when only some officials are corrupt, or when such officials are wary of engaging in corrupt transactions with agents they do not know --- perhaps for fear of being caught and punished. The citizen employs an intermediary to obtain the service for him --- it is perfectly legal to hire an agent to stand in line with an application --- and the official can safely accept the bribe from the trusted intermediary. In this paper we examine various scenarios in which intermediaries may be active, and compare the equilibrium outcomes with the benchmark case where there is no intermediation.

A society consists of $M + N$ people

$M$ is the number of people with characteristics that make them a target of public policy

Receive a transfer of amount $B$, from the public exchequer
They go to a counter, prove their credentials and pick up the money
There are $K$ such counters and a deserving candidate can go to any one
Verification (whether deserving) is costless and perfect

With honest officials, no undeserving candidate will get the transfer
All deserving candidates will get the transfer
Queuing up at the windows is costly; hence, no undeserving candidate applies

Let $x$ be the expected length of the line at any counter
$C(.)$ is the cost of standing in queue
Benefit to deserving candidates is $B - C(x)$

**A.1:** $C'(.) > 0; C''(.) > 0 \;\forall\; x > 0 \;\lim_{x \to \infty} C(x) = \infty; \lim_{x \to 0} C(x) = 0; \lim_{x \to 0} C'(x) = 0$

Utility of a deserving candidate is

(1) $U_d = B - C(M / K)$

where $(M/K)$ is the expected length of the line assuming that candidates choose counters randomly

The utility of an undeserving candidate, $U_u$ is zero.

We will always assume that

**A.2:** $B > C(M/K)$.

Suppose that only $k, 0 \le k \le K$, officials are honest
A candidate has no way of knowing which counter has a honest official
A dishonest official can transfer $B$ to an undeserving candidate but cannot deny the transfer to a deserving candidate

The fee, or bribe, to the dishonest official by an undeserving candidate is $s$

Define $\theta \equiv (k/K)$ and let $n$ of the $N$ deserving candidates queue up
Continue with the assumption that candidates randomly go to the counters.

With probability $\theta$ the undeserving candidate will meet an honest official
With probability $(1-\theta)$ she will meet a dishonest official
Her utility is then given by

(2) $$U_u = (1-\theta)B - C\left(\frac{M+n}{K}\right) - s \ge 0$$

**Proposition 1:** *A deserving candidate will always queue up.*

**Proposition 2:** *Let us assume that the proportion of honest to dishonest counter officials is exactly representative of this proportion in the population of all officials and counter officials are drawn at random from the population of all officials, i.e.,* $(d\theta/dK) = 0$. *The number of undeserving candidates who queue up decreases in* $\theta$ *and increases in* $K$.

The second part of Proposition 2 is worth emphasizing
When undeserving candidates queue up there is a net loss to the economy
Let $Z(K)$ be the cost of maintaining counters
This is the cost of the transfer programme and includes the salaries of officials and the infrastructure costs of setting up the counters
So, $Z'(K) > 0$

If only deserving candidates get the transfer, the cost to the government is $MB + Z(K)$

A transfer to deserving candidates increases social welfare
This increase is measured as $(\alpha - 1)B, \alpha > 1$
If only deserving candidates queue up and get the transfer, then the welfare gain is

(4) $W_0 = M(\alpha - 1)B - Z(K) - MC(M/K)$

Alternatively, if undeserving candidates also get the transfer, then the welfare gain is

(5) $W_1 = M(\alpha - 1)B - Z(K) - (M + n)C\left(\frac{M+n}{K}\right)$

Let $K_0$ be the number of counters that maximizes equation (4)
and $K_1$ be such that

(6) $(1 - \theta)B - C(M/K_1) = 0$

**Proposition 3:** *Let us assume that the proportion of honest to dishonest counter officials is exactly representative of this proportion in the population of all officials and counter officials are drawn at random from the population of all officials, i.e.,* $(d\theta/dK) = 0$. *Then, the cost of the programme is increasing in* $K$ *for all* $K > K_1$.

**Proposition 4:** *Let us assume that the proportion of honest to dishonest counter officials is exactly representative of this proportion in the population of all officials and counter officials are drawn at random from the population of all officials, i.e.,* $(d\theta / dK) = 0$. *In the presence of dishonest officials, it is optimal for the authorities to restrict the number of counters to* $K^* = \min(K_1, K_0)$.

## 3. The Model with an Intermediry

**A.3:** *The intermediary knows which counter has dishonest officials.*

Observe that undeserving candidates can immediately benefit from going to the intermediary. Without the intermediary, an undeserving candidate faces a probability of landing up at a dishonest counter and getting the transfer. By going through an intermediary, the undeserving candidate is certain to get the benefit since the intermediary will direct her to the "right" counter. The choice of counters for the undeserving candidate is no longer random; if deserving candidates do not go through the intermediary, their choice of counters continues to be random. If all undeserving candidates go through the intermediary and deserving candidates do not, then the lines in front of a dishonest counter will be longer than that in front of an honest counter. The expected length of the queue in front of an honest counter will be $(M/K)$; for a dishonest counter it will be

$$\frac{M}{K}+\frac{n}{(1-\theta)K}$$

Recall that there are $(1-\theta)K$ dishonest counters and the intermediary knows which ones. Therefore, undeserving candidates queue up in front of these counters only. The $n$ undeserving candidates are allocated randomly by the tout to the dishonest counters. Since deserving candidates choose counters randomly, $(M/K)$ of them will land up at a dishonest counter. If $S$ is the intermediary's fee, euphemistically referred to as the service charge and includes the payment to be given to the dishonest official, the undeserving candidate gets

$$(7) \qquad U_u = B - C\left(\frac{M}{K}+\frac{n}{(1-\theta)K}\right) - S$$

With probability $\theta$ the deserving candidate will go to an honest counter and with probability $(1-\theta)$ the candidate will land up at a dishonest counter. The expected benefit to a deserving candidate is given by

$$(8) \qquad U_d = B - \theta C\left(\frac{M}{K}\right) - (1-\theta)C\left(\frac{M}{K}+\frac{n}{(1-\theta)K}\right)$$

**Proposition 5:** *The intermediary will always have some clients.*

**Proposition 6:** *Competition among intermediaries will ensure that all undeserving candidates go through intermediaries.*

**Proposition 7:** *Competition among intermediaries will ensure that deserving candidates also go through intermediaries.*