

# The Political Economy of Privatization

## An Empirical Analysis of Bank Privatization in Argentina

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Political incentives appear to affect the likelihood of privatization. Provinces in Argentina whose governors belonged to a fiscally conservative party were more likely to privatize, and fiscal and economic crises increased the likelihood of privatization.



## Summary findings

Clarke and Cull study the political economy of bank privatization in Argentina. The results of their study strongly support the hypothesis that political incentives affect the likelihood of privatization.

They find that:

- Provinces whose governors belonged to the fiscally conservative Partido Justicialista were more likely to privatize.

- Fiscal and economic crises increased the likelihood of privatization.

- Poorly performing banks were more likely to be privatized.

They tested the hypotheses for a specific industry in a specific country, making it possible to control for enterprise performance and institutional characteristics. It seems reasonable to expect that similar results might hold in other industries and countries.

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**THE POLITICAL ECONOMY OF PRIVATIZATION:  
AN EMPIRICAL ANALYSIS OF BANK PRIVATIZATION IN ARGENTINA**

by

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# **THE POLITICAL ECONOMY OF PRIVATIZATION:**

## **AN EMPIRICAL ANALYSIS OF BANK PRIVATIZATION IN ARGENTINA**

### **1. INTRODUCTION**

Recent research on public and private ownership of enterprises has focused on two fundamental questions: (i) which form of ownership promotes social welfare more effectively and (ii) why would politicians, who can maintain political support by subsidizing state-owned enterprises, ever relinquish control? A growing body of empirical research has addressed the first question, suggesting that private firms often operate more efficiently than state-owned enterprises. Less empirical work has focused on the second question. A straightforward answer, based upon recent theoretical work, is that politicians choose to privatize when the political cost of maintaining state ownership outweighs the benefits. However, it is difficult to test this proposition formally. To do so, it is necessary to quantify the factors that enter the politician's cost-benefit calculus and assess how are they weighted.

This paper is an attempt to formally model, and test, which factors lead policy makers to relinquish control of state-owned enterprises. The privatization of provincial banks in Argentina offers a unique opportunity to study the political economy of privatization in a relatively homogeneous institutional setting (at least relative to cross-country comparisons) and for firms that are relatively similar. This makes it easier to assess the motivations of politicians and compare the performance of the enterprises being privatized. The results should have implications for both Argentina's remaining provincial banks and for other countries that have state-owned banks frequently in need of re-capitalization. In addition, some results might be able to be generalized to state-owned enterprises in other sectors.

We find that political costs and benefits (as captured in proxies) did have substantial impact on decisions to privatize. Those provinces with larger fiscal deficits and lower-quality banks, frequently in need of re-capitalization through government subsidies, were quicker to privatize. Political parties also played a role. Provinces with Peronist leaders -- whose support base is, perhaps, tied less closely to those groups that benefited directly from subsidies to state-owned enterprises -- were also quick to privatize.

## 2. WHY PRIVATIZE? THE POLITICAL ECONOMY OF PRIVATIZATION.

Private ownership offers features which should, in many circumstances, ensure that a private firm operates more efficiently than a similar state-owned enterprise. Laffont and Tirole (1991) notes, for example, that because managers of public enterprises own no stock or stock options in their "firms" and are not subject to corporate takeovers that could cost them their jobs, they typically have less incentive than private managers to adopt a sufficiently long-term perspective focused on productive efficiency. That bit of conventional wisdom breaks down when the state retains control of some of a firm's shares; in those instances, partial state ownership may be compatible with the disciplining effect of capital market monitoring.<sup>1</sup> Monitoring is, however, one reason to expect private firms to perform better than state-owned enterprises. Another is the so-called hard budget constraint faced by private managers. Although some public enterprises are, in fact, shut down, the vast majority expect government subsidy rather than closure in response to poor performance. Without threat of bankruptcy, public managers have less incentive to manage well than do their private counterparts.<sup>2</sup>

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<sup>1</sup> Holmstrom and Tirole (1989) suggests, however, that when the state retains ownership of a relatively large portion of a privatized enterprise, the resulting market for its shares may become illiquid. Speculators may shy away from such shares thus garbling the signal about the firm's future performance contained in its share price. In those instances, the disciplining effect of capital market monitoring may be less effective than if the firm's shares were entirely in private hands.

<sup>2</sup> In addition to capital market monitoring and hard budget constraints, Laffont and Tirole offer three additional reasons why private ownership might be superior to public: governments may expropriate investment from public enterprises, may impose multiple, fuzzy, and changing objectives on public

Laffont and Tirole note that public ownership may, however, offer advantages in some circumstances. For example, it may make it easier for a government to pursue welfare goals other than profit maximization better than it could through regulation of a private firm. Theory cannot, therefore, unambiguously resolve which form of ownership better promotes social welfare. Recent empirical work has indicated that, in many instances, privatized firms are more efficient than comparable public enterprises (López-de-Silanes (forthcoming); Mueller (1989); Vining and Boardman (1992)). Similarly, many enterprises exhibit post-privatization improvement in efficiency (Galal et al (1994); Kikeri, Nellis, and Shirley (1992); La Porta and López-de-Silanes (1997); Megginson, Nash, and Van Randenborgh (1994); World Bank (1995)).

For the banks in this sample, Clarke and Cull (1997) finds post-privatization improvements in both loan portfolio quality and the efficiency with which they generate income. If provincial policy makers were worried about the health of their financial sector -- and a growing body of empirical research suggests a strong link between financial development and economic growth -- why didn't they privatize more quickly?<sup>3</sup> Shleifer and Vishny (1994) cites a number of examples that make it clear that politicians use public enterprises to pursue their own political goals.<sup>4</sup> One straightforward way to do this is to give redundant jobs at state-owned enterprises to political supporters.<sup>5</sup> State-owned enterprises may also charge prices below marginal cost to garner political

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managers, and may be susceptible to the pressure of interest groups in directing those managers. They note, however, that shareholders may also expropriate investment and impose fuzzy objectives on private managers, and that governments may regulate private firms so as to appease interest groups. It is not, therefore, obvious that these are important factors in favor of private ownership.

<sup>3</sup> See Levine (1997) for an excellent summary of the literature on financial development and economic growth. Given the substantial number of systemic bank crises over the past twenty years (see Caprio and Klingebiel (1996)), even those provincial policy makers less concerned about economic growth might have preferred to privatize their banks, if merely to reduce the probability of disaster.

<sup>4</sup> Whether it be producing the Concorde rather than an aircraft with more mass appeal (Anastassopoulos (1981), or locating state-owned enterprises in places that pleased Italy's ruling Christian Democrats (Martinelli (1981)), politicians have often been willing to forego efficiency to achieve their own goals.

<sup>5</sup> Donahue (1989).

support.<sup>6</sup> Given these benefits, it seems unlikely that politicians would ever relinquish government control. However, it may be that not all politicians are alike. Shleifer and Vishny (1994) suggests that privatization occurs when politicians who benefit from low taxes win out over those who benefit from subsidizing supporters.

In addition, there are a number of factors that will affect the relative costs and benefits of privatization for all politicians. For example, López-de-Silanes et al (1997) finds that state clean government laws and state laws restricting public spending encourage privatization at the county level in the United States. They suggest that this might be because these laws increase the cost of political patronage.<sup>7</sup> In the same way, economic crises, which worsen the fiscal situation of a government, might also alter the costs and benefits of privatization making it more difficult for politicians, of all types, to subsidize loss-making state-owned enterprises (World Bank (1995)). Provincial governments facing large fiscal deficits might have been more likely to privatize their provincial banks than provinces with sound finances.<sup>8</sup>

It is not immediately clear, however, that deficits should have a large effect on a politician's decision to privatize. If a politician can benefit from privatization during a crisis period, it is not clear why he wouldn't benefit during a non-crisis period. One plausible explanation might be that distortionary taxes make the cost of raising revenue higher during a crisis (when marginal rates have to be higher) than during a non-crisis period. In addition, crises might affect political players differently. Less averse to raising taxes, left-wing 'subsidizing' politicians might be less affected by crises than fiscally conservative 'low tax' politicians. World Bank (1995) cautions that in cases where the beneficiaries of the state-owned enterprise status quo are an important part of

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<sup>6</sup> See Bates (1981) on food pricing policies in Africa.

<sup>7</sup> However, they also note that these laws might simply be "nuisance laws" which increase the cost of public provisions.

<sup>8</sup> It is also possible that some provinces had low deficits because of better access to federal subsidies rather than sound finances per se.

the leadership's support base, "a crisis must be extremely large before the political benefits of reform outweigh the costs."<sup>9</sup>

The rationale for including bank quality is similar to the rationale for including deficits. Poorly performing banks impose a larger fiscal burden on a government, which weakens the support base of politicians that oppose privatization. Bank failure, moreover, may be a source not only of substantial fiscal burden, but also may call taxpayers' attention to the way capital is allocated to members of the politicians' support base. This may strengthen support for those politicians that favor lower taxes, and thus increase the likelihood of privatization. However, like deficits, bank quality may not explain much additional variation in privatization decisions when one controls for political party. Subsidizing a failing bank is, after all, only one piece of the fiscal puzzle, and deficits are already controlled for in the models that follow. Further, the performance of state-owned enterprises can presumably be hidden from taxpayers. However, if low bank quality provides a signal for the *future* fiscal costs of refusing to privatize, then it may provide additional information.

We might expect the political variables to explain more of the variation in privatization decisions than the other variable types. Citing a number of examples, Shleifer and Vishny conclude, "privatization usually occurs when conservative governments, favored by taxpayers, replace leftists governments, favored by public employees."<sup>10</sup> In Argentina, President Menem's party, the *Partido Justicialista* (PJ), are seen as fiscally conservative, whereas the *Union Civica Radical* (UCR) are seen as moderately left-wing.<sup>11</sup> We would expect that provinces controlled by the PJ would,

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<sup>9</sup> In addition, economic crises may affect the fiscal situation of all provinces in the same way. Lack of cross-sectional variation may be another reason that deficits do not have a large impact on the speed at which provinces privatize their banks.

<sup>10</sup> Shleifer and Vishny (1994), p. 1022.

<sup>11</sup> This has not always been true. The Movimiento Nacionalista Justicialista (MNJ), the predecessor of the Partido Justicialista, grew out of the radical nationalist 'Peronista' or 'Laborista' movement led by General Peron. In the mid-1980s the revived movement split into two factions, the *oficialistas* and the reformist *renovadores*. The two sides presented separate lists, in conjunction with smaller parties, in 1985 legislative

therefore, be more likely to privatize their banks. Provinces where the UCR either is in control or has sufficient support to block PJ actions should be slower to privatize. These provincial leadership variables also allow us to test whether the two parties respond differently to deficits. To the extent that the PJ represents taxpayer interests, we might expect provinces with both high deficits and PJ leadership to be especially likely to privatize their banks.

Finally, a term limit variable allows us to test some additional hypotheses regarding the political costs and benefits of privatization. Besley and Case (1995) finds that gubernatorial term limits in the United States have a significant effect on economic policy choices. Based upon a model of political reputation presented in Banks and Sundaram (1993), they suggest that effort, and thus policy outcomes, will be different when term limits are binding. In the theoretical model, incumbents are more willing to apply extra effort (i.e. take costly actions) if they can be re-elected. However, as Besley and Case (1995) notes “predicting which policies actually get chosen requires an understanding of how enacting them enters the incumbents’ probability of re-election.” (Besley and Case (1995), p.794). In Argentina, PJ governors might have felt that the public elected them to improve the fiscal position of the provincial government and so might support privatization of loss-making enterprises for this reason. UCR governors might have felt the reverse. PJ governors who could be re-elected might be more willing to fight for privatization than other PJ governors, whereas UCR governors who could be re-elected might be more willing to fight against privatization.<sup>12</sup>

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balloting and then in 1987, the *oficialista* Vicente Saadi resigned as Justicialista president following the poor performance of *oficialistas* in the 1987 legislative elections. This paved the way for Carlos Saul Menem, a *renovadore* leader, to become party president. In 1989, Menem was elected President of Argentina.

<sup>12</sup> Unfortunately, since we were unable to get data on term limits for each province, including this variable reduces sample size considerably. For this reason we omit this variable from much of the analysis.

### **3. PROVINCIAL BANK PRIVATIZATION IN ARGENTINA**

#### **3.1. Background**

At the beginning of the decade, each Argentine province owned at least one bank. The performance of these publicly-owned provincial banks in the 1990s has been substantially worse than that of private banks, and the losses they incurred imposed substantial fiscal costs upon the provinces.<sup>13</sup> Beginning in 1991, when the provincial government of Corrientes passed a law authorizing the privatization of Banco de Corrientes, provincial governments started to consider privatizing the public banks. The trickle of provincial bank privatizations became a flood after the “Tequila Crisis” of December 1994. Of the nearly thirty provincial banks, almost half had been privatized by the end of 1996, and several other privatizations had been authorized but not completed. Although other players, for example the Federal Government of Argentina, the Central Bank of Argentina and international donors, might be able to indirectly influence the privatization decision, the final choice is made by the provincial government. This allows variation along several key dimensions, including fiscal performance of the province, bank performance and the political incentives facing key players, while keeping other institutional details similar.

#### **3.2. Variable Descriptions and Summary Statistics**

In this section, we describe and provide summary statistics for variables that might have affected the incentives and constraints facing decision-makers in the provincial governments. We include variables indicating whether opponents could block privatization in either the executive or legislative branch of government; bank quality variables indicating the cost of continuing to support the public provincial bank; a fiscal deficit variable indicating the province’s ability to support money-losing enterprises; and a term-limit variable to capture the governor’s incentives to take costly actions.

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<sup>13</sup> See Clarke and Cull (1997) for a description of the performance of public and privatized provincial banks in Argentina.

1. **Provincial Politics.** As noted, President Menem's party, the PJ, is often seen as more fiscally conservative, and more sympathetic towards privatization, than other parties. The model includes two dummy variables, one indicating whether the PJ controlled both the provincial congress and the governorship and another indicating whether either the *Union Civica Radical* (UCR) or another single party could block privatization at either the legislative or executive level.<sup>14</sup> In practice, when a party other than the PJ has a majority in either the Chamber of Deputies or the Senate, the governor also belongs to that party. The "omitted" category is therefore provincial governments with a PJ governor where the PJ does not have a majority in both legislative chambers. These variables indicate whether a single opposition party, or a coalition of opposition parties, control an executive or legislative veto point.<sup>15</sup>

**Table 1: Median Deficits as Share of Revenues for 1992**

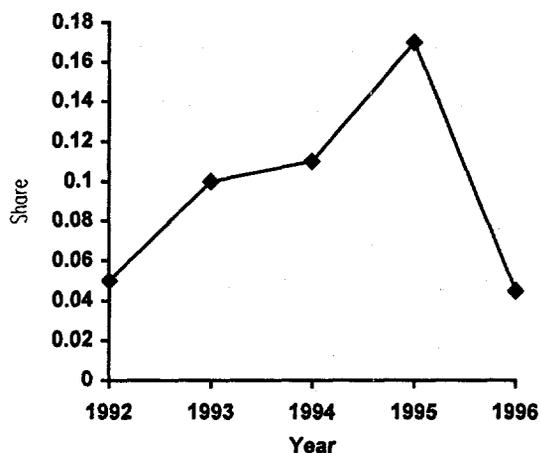
<b>Group</b>	<b>No. of Banks</b>	<b>Deficits as Share of Revenues</b>
<i>Bank Privatization Process Started Prior to Dec. 1994</i>	4	0.0487
<i>Bank Privatization Process Started After Dec. 1994</i>	13	0.0480
<i>Bank Privatization Process Not Started By Dec. 1996.</i>	7	0.0513

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<sup>14</sup> In provinces with both a Chamber of Deputies and a Senate, PJ control implies that the PJ has majorities in both the Chamber and the Senate. Since in bicameral legislatures, opposition parties could block privatization with control of only one chamber, the blocking variable indicates that an opposition party has control of at least one of the houses. From this point onwards, for ease of exposition, we shall write as if all provinces had two houses. For unicameral legislatures, the omitted category is provinces with a PJ governor where no party has a majority in the chamber of deputies. For bicameral legislatures, the omitted category is provinces with a PJ governor where either the PJ has a majority in one chamber and no party has a majority in the other, or where no party has a majority in either chamber.

<sup>15</sup> See, for example, Cox and McCubbins (1996).

2. **Government Deficit.** As noted earlier, economic crises, which make it more difficult



**Figure 1: Median Deficit as % of Revenues.**

However, in the econometric analysis, after controlling for the political and bank performance variables, we do find that high fiscal deficits (as a percentage of revenues) increased the probability of privatization. This result may be primarily caused by time series variation in deficits. Figure 1 shows that the median provincial deficits varied greatly over this period (from 4.5% of revenues in 1996 to 17% in 1995).

3. **Bank Quality Variables.** Several measures of bank performance are included in the model. A poorly performing public provincial bank could impose high fiscal costs upon a province -- those provinces with the worst performing banks might have been unwilling, or unable, to subsidize the banks for political reasons. Table 2 shows that banks that were privatized earlier (banks who started the privatization process before the Tequila Crisis of December 1994) tended to be worse performers in 1992 (prior to

for the government to subsidize loss-making state-owned enterprises, might increase the likelihood of privatization. Table 1 shows that cross-sectional evidence does not strongly support this hypothesis. There is little difference between the 1992 fiscal deficits of provinces that started the privatization process prior to December 1994, those that started the process after December 1994, and those that did not privatize at all.<sup>16</sup>

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<sup>16</sup> We used 1992 fiscal data because we want to compare deficits prior to any privatizations. This is important because the act of privatization might affect the provinces' deficits (for example by ending the need to finance recapitalization of the provincial banks).

privatization) than those privatized later or not all. Likewise, late privatizers appeared to have been performing less well in 1992 than those not privatized at all.

**Table 2: Median 1992 Performance Indicators for Early, Late and Non-Privatized Provincial Banks**

Group	No. of Banks	Net Worth divided by Net Liabilities**	"Normal"* Loans as Share of Total Loans**	Loans to Public Sector as Share of Total Loans**
<i>Privatized Prior to Dec. 1994***</i>	4	0.082	0.474	0.205
<i>Privatized After Dec. 1994</i>	13	0.191	0.625	0.174
<i>Not Privatized By Dec. 1996.</i>	7	0.217	0.702	0.135

\* "Normal" Loans are Loans that are not overdue. (See Table 3)

\*\* All data is for June 1992 (prior to any privatizations).<sup>17</sup>

\*\*\* Omits Corrientes since this bank was privatized in 1991, and we want pre-privatization data. Including Corrientes makes all performance measures even worse for early privatizers.

#### 4. ECONOMETRIC RESULTS.

Using Cox's proportional hazard model, the timing of privatization is estimated as a function of the quality of the provincial bank, the political affiliation of the key decision-makers, and the fiscal situation of the province.<sup>18</sup> The hazard rate in this model - which, loosely, is the rate at which banks are privatized after time  $t$  given that they were not privatized prior to time  $t$  -- is:<sup>19</sup>

$$\lambda(t) = \lambda_0(t) e^{\beta_1 x_1 + \dots + \beta_k x_k}$$

$\lambda_0(t)$  is the "baseline" hazard function, a non-parametric function of time;  $\beta$  is the parameter vector; and  $x$  is the vector of covariates (e.g. the bank quality variables). In the results, a positive coefficient indicates that an increase in that variable increases the

<sup>17</sup> The privatization process for Corrientes started in October 1991, however this province is omitted from all analysis due to missing data in 1990 and 1991.

<sup>18</sup> The partial likelihood model was first presented in Cox, D. (1972) "Regression Models and Life Tables." *Journal of the Royal Statistical Society B*, 34, pp. 187-220. Other sources which discuss this class of models include Kalbfleisch, J and Ross L. Prentice (1980) *The Statistical Analysis of Failure Time Data*. New York: John Wiley and Sons; and Greene, W. (1997) *Econometric Analysis 3rd ed.* New York: Macmillan.

<sup>19</sup> The time of privatization is when the law enabling privatization was passed. This point, which is the start of a process which often lasted several years, is relevant because this is when the political decision to privatize is being made.

probability of privatization (increases the privatization rate) - for example, the positive sign on percent of loans to the public sector indicates that a greater public portfolio increases the probability of privatization. A negative sign would indicate the opposite. The baseline hazard function, a (non-parametric) function of time, allows the probability that the bank will be privatized to change over time. This will help control for changes in national laws or institutions and exogenous shocks that affected the entire banking sector which (proportionally) affect the privatization decisions of all provinces (e.g. the Tequila Crisis, changes in reserve requirements, and the new Charter of the Central Bank of Argentina enacted in September, 1992).

Table 3 describes the variables included in the analysis. In the estimation, bank quality variables are lagged one period. After the decision to privatize was made, performance indicators, such as net worth and portfolio quality variables, sharply declined. Rather than being the result of actual changes in performance, this decline appears to have been caused by a more careful auditing of bank assets (perhaps intended to help the province separate the bank into a privatized provincial bank and a residual entity).<sup>20</sup> Since this auditing occurred only if the bank was privatized, coefficients on contemporaneous bank quality variables might be negative even if bank performance did not affect privatization. To avoid this potential problem, we include lagged, rather than contemporaneous, bank performance variables. Similarly, since the proceeds from privatization might affect provincial deficits, we also lag the fiscal deficit variable.

Results from the estimation are shown in Table 5.<sup>21</sup> Coefficients on the lagged bank quality variables are statistically significant (at least at a 5% level).<sup>22</sup> All variables

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<sup>20</sup> See Clarke and Cull (1997).

<sup>21</sup> Several experts suggested that we should omit the Banco de Provincia de Buenos Aires from our sample. Experts at the Central Bank noted that the 1853 *Pacto San Jose de Flores*, a pact between the province of Buenos Aires and the Federal government, which predates the Central Bank, means that the Central Bank cannot effectively control this bank. They suggested that this gives this public provincial bank a special status which makes its privatization unlikely. Further, several other experts noted that political rivalry between the Governor of Buenos Aires (Eduardo Duhalde, a member of the PJ) and President Menem made the Governor less willing to compromise with the President. However, our results are similar

confirm that worse performing public provincial banks are more likely to be privatized, all other things being equal, than better performing banks. The coefficient on net worth over liabilities is negative, indicating that banks with higher net worth were less likely to be privatized. The coefficient on the percent of loans that are not overdue is also negative. This indicates bank's with better loan portfolios were less likely to have been privatized. The spline, which allows the coefficient to take different values after definitions concerning loan classification and reserve requirements changed, is statistically significant with a positive sign.<sup>23</sup> This might indicate that quality of the portfolio became more important after reserve requirements were tightened.<sup>24</sup> Stricter reserve requirements after 1994 might have increased the costs that public provincial banks with poor loan portfolios imposed upon the provinces, increasing the likelihood of privatization. Banks with a high percentage of loans to the public sector were more likely to be privatized than those with lower percentages of loans to the public sector. This variable is weakly negatively correlated with the other performance variables - banks with a high percentage of loans to the public sector tend to have lower net worth (correlation of -0.08 in June 1992) and less "normal" loans (-0.27 in June 1992). One possible reason for this might be that banks with a large public sector loan portfolio made more politically motivated loans. The change in net worth over liabilities is included to test whether privatization is more, or less, likely when the performance of the bank is declining. Although the negative coefficient indicates that privatization is less likely

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whether Provincia de Buenos Aires is included or not. Table 6 shows results with the Banco de Provincia de Buenos Aires omitted.

<sup>22</sup> The independent variables in this model change, at most, every six months. Government deficit data is only available on a yearly basis, bank quality variables are available for June and December of each year.

<sup>23</sup> See Central Bank of Argentina (1996). A Wald test of the null hypothesis that the sum of the two coefficients is zero is rejected at conventional levels ( $\chi^2(1) = 5.84$ ).

<sup>24</sup> The most significant definitional changes occurred for different classifications of 'bad' loans. It seems unlikely that the slight definitional changes for normal loans drive this result, especially since the variable base hazard rate might help control for some of the change. However, the definitional changes make it impossible to draw strong conclusions. See Bolzico and Figueroa (1994) for a discussion of the changes in definitions and in reserve requirements.

when the bank's performance is improving, it does not approach significance. Dropping this variable does not affect results (see Col. (3), Table 5).

**Table 3: Independent Variables in the Estimation.**

<b>Variable</b>	<b>Comments</b>
<b>Does the PJ control the assembly and the executive? (1=yes, 0=no)</b>	A dummy variable indicating that the Partido Justicialista (President Menem's party) controls both the Governorship and provincial Congress. If the provincial Congress is bicameral, this indicates that both the Senate and the Chamber of Deputies are controlled by the PJ.
<b>Can either the UCR or independents block? (1=yes, 0=no)</b>	A dummy variable indicating that the Union Civica Radical (UCR) or a single independent party controls at least one chamber of the provincial Congress or the Governorship. In practice, since when either the UCR or a single independent party controls either chamber the governor also belongs to that party, this indicates that the governor is either a member of the UCR or an independent party.
<b>Can UCR block in the assembly or the executive? (1=yes, 0=no)</b>	A dummy variable indicating that the Union Civica Radical controls (at least one chamber of) the provincial Congress or the Governorship. In practice, when the UCR controls either the Chamber of Deputies or the Senate, the governor also belongs to that party.
<b>Can independents block in the assembly or the executive? (1=yes, 0=no)</b>	A dummy variable indicating that a single independent party control either (at least one chamber of) the provincial Congress or the Governorship. In practice, when a single independent party controls either the Chamber of Deputies or the Senate, the governor also belongs to that party.
<b>Bank Net Worth over Liabilities</b>	The bank's net worth over its liabilities (lagged six months).
<b>% of Bank Loans to Public Sector</b>	Percent of the bank's loans made to the public sector (lagged six months).
<b>% of Bank Loans considered "normal" (either definition)</b>	Percent of the bank's loans that are not overdue (lagged six months). The definition of bad loans and provisioning requirements against bad loans changed in 1994. Therefore, we include an extra term allowing the coefficients on this term to change when the definition changed.
<b>Government Deficit as Share of Revenues</b>	Government deficit as percent of total revenues (lagged one year). Government deficits are positive and surpluses are negative. This is used, rather than deficit as share of provincial GDP because good measures of provincial GDP were not available.
<b>Change in Net Worth over Liabilities</b>	The change in the banks net worth over its liabilities (lagged six months). An increase in net worth is positive.
<b><i>If the governor is a member of the PJ, can he be re-elected? (1=Yes, 0=No)</i></b>	An interaction term indicating whether a PJ governor could be re-elected for an additional term.

The coefficient on fiscal deficit as a share of revenues is positive and statistically significant throughout the analysis at least a five percent level. The positive coefficient

indicates that provincial governments facing large fiscal deficits are more likely to privatize their public provincial banks than those facing smaller deficits. This result is consistent with findings in World Bank (1995) which suggest that reform is more likely when the government is facing a fiscal crisis -- provincial governments facing large deficits are less willing, or able, to subsidize public provincial banks.<sup>25</sup>

In general, the hazard rate appears more sensitive to changes in the bank quality variables than to the provincial deficit (See Table 4).<sup>26</sup> A 1% increase in net worth over liabilities decreases the (unobserved) hazard rates for privatization by 3%, and a 1% increase in normal loans as a percentage of total loans decreases the hazard rate for privatization by 4%.<sup>27</sup> In contrast, a 1% increase in provincial deficit (as a share of total revenues) decreases the hazard rate for privatization by less than 1%.

**Table 4: Elasticities of Estimated Hazard Rate with Respect to Continuous Independent Variables**

	Elasticity	95% Confidence Interval
<i>Net worth over liabilities</i>	-3.03**	(-5.27, -0.78)
<i>Public loans as percent of all loans.</i>	1.08**	(0.13, 2.03)
<i>Total "normal" loans as percent of all loans</i>	-4.37**	(-7.03, -1.71)
<i>Provincial government deficit as percent of revenues</i>	0.73**	(0.15, 1.31)

+ Elasticities are calculated at the means of all variables

++ Coefficient estimates are from Table 5, Column 2.

<sup>25</sup> World Bank (1995), Chapter 4.

<sup>26</sup> Results from exponential and Weibull hazard models are similar to the results presented for the proportional hazard model. The main differences are: in the exponential hazard model, the coefficients on the share of loans to the public sector and on provincial deficit as a share of provincial revenues drop to a 10% significance level. In the Weibull hazard model, the coefficient on provincial deficit as share of provincial revenues becomes insignificant at conventional levels (but share of loans to the public sector remains significant at a 5% level). However, changes in national laws and institutions and exogenous shocks such as the Tequila crisis make Cox's proportional hazard formulation appear more attractive than the fully parametric models which force the base hazard rate to follow less general time-dependent paths. Further, as noted in footnote 39, hypothesis tests appear to favor Cox's proportional hazard model over the two fully parametric models.

<sup>27</sup> Elasticities are calculated at the means of all variables.

Of the political variables in Column (1) of Table 5, only the coefficient on whether independents can block privatization is statistically significant at conventional levels. However, the coefficients on the blocking variables for both the UCR and independents have the expected negative signs -- indicating that if any other party can block privatization, that outcome becomes less likely -- and have similar magnitudes. A Wald test of the null hypothesis that the two coefficients are equal fails to reject the null, indicating that UCR and independent governors appear equally likely to block privatization.<sup>28</sup> Column (2) of Table 5 shows results when the coefficients are constrained to be equal. The coefficient on the blocking variable is statistically significant, indicating that privatization is less likely when the governor is either a member of the UCR or an independent party.<sup>29</sup> The other political variable, a dummy indicating that President Menem's *Partido Justicialista* controls both the provincial congress and the governorship, is statistically insignificant throughout the analysis.<sup>30</sup> This indicates that privatization is no more or less likely with a PJ governor and a PJ majority in (both houses of) the provincial congress, than when there is a PJ governor but no PJ majority in (both houses of) the legislature.<sup>31</sup> The point estimate of the effect on the hazard rate of an independent or UCR governor is 0.16 - indicating that the rate at which public provincial banks are privatized with an independent or UCR governor is approximately one sixth the rate with a PJ governor.<sup>32</sup>

In Column (4) of Table 5 we include an interaction term between the government deficit variable and whether the UCR or another independent party can block

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<sup>28</sup> The  $\chi^2$  (1) statistic is 0.02.

<sup>29</sup> A test of the null hypothesis that the coefficient on the dummy variable indicating that the PJ controls both the legislature and the executive is equal to the coefficient on the dummy variable indicating that either the UCR or independent party can block is rejected at a 5% significance level.

<sup>30</sup> Results are similar in terms of both size and statistical significance when this variable is omitted.

<sup>31</sup> Recalling that if there is not a PJ governor then the dummy variable indicating that either the UCR or an independent party can block is one. There were no cases where the UCR or a single independent party controlled the provincial legislature and the governor was either PJ or a member of a different party.

<sup>32</sup> However, the 95% confidence interval is quite large (0.03 to 0.82).

privatization.<sup>33</sup> The coefficient is negative but statistically insignificant -- the large negative coefficient might indicate that only PJ governors are affected by provincial deficits (i.e. we are unable to reject the null hypothesis that the sum of the deficits and interaction coefficients is zero). However, we are also unable to reject the null hypothesis that all governors are affected equally.

**Table 5: Proportional Hazard Model for Bank Privatization (Buenos Aires Included)**

	(1)	(2)	(3)	(4)	(5)
Proportional Hazard Model (Monthly Data)					
<i>Prov. de Buenos Aires Included</i>	Yes	Yes	Yes	Yes	Yes
<i># of Banks</i>	23	23	23	23	17
<i># of Privatizations</i>	16	16	16	16	12
<i># of Months at Risk of Privatization</i>	1010	1010	1010	1010	825
<i>Does the PJ control the assembly and the executive? (1=yes,0=no)</i>	-0.732 (-0.91)	-0.625 (-0.78)	-0.598 (-0.75)	-0.235 (-0.28)	-1.935 (-1.45)
<i>Can either UCR or independents block? (1=yes,0=no)</i>		-1.865** (-2.19)	-1.822** (-2.19)	0.117 (0.09)	-2.055 (-1.52)
<i>Can the UCR block in assembly or executive? (1=yes,0=no)</i>	-1.466 (-1.53)				
<i>Can independents block in assembly or executive? (1=yes,0=no)</i>	-2.553** (-1.92)				
<i>Bank net worth over liabilities (lagged)</i>	-16.989** (-2.63)	-16.622** (-2.64)	-17.09** (-2.83)	-17.240** (-2.80)	-12.337* (-1.90)
<i>% of bank loans to public sector (lagged)</i>	5.368** (2.09)	5.645** (2.22)	5.552** (2.20)	5.409** (2.18)	1.400 (0.30)
<i>% of bank loans considered "normal" (either definition) (lagged)</i>	-7.321** (-3.34)	-7.289** (-3.22)	-7.423** (-3.32)	-7.501** (-3.19)	-7.884** (-2.61)
<i>% of bank loans considered - "normal" (old definition) (lagged)</i>	2.807** (2.04)	2.499* (1.90)	2.514* (1.90)	2.456* (1.77)	3.413* (1.89)
<i>Gov't deficit as share of revenues (lagged)</i>	8.016** (2.44)	8.038** (2.46)	8.018** (2.46)	9.525** (2.80)	8.830** (2.39)
<i>Gov't deficit (lagged) * blocking dummy</i>				-17.552 (-1.43)	
<i>Change in net worth over liability (lagged)</i>	-2.841 (-0.35)	-2.080 (-0.27)			
<i>If the governor is a member of the PJ, can he be re-elected?</i>					2.575** (2.01)
<i>Log Likelihood</i>	-25.56	-25.84	-25.88	-24.54	-14.67

t-stats in parentheses.

\* indicates significance at 10% level \*\* indicates significance at 5% level.

<sup>33</sup> We also included an interaction term between net worth over liability and whether a non-PJ party can block privatization in some estimations (both including and omitting the interaction term with the deficit variable). The coefficient on the interaction between bank performance and the blocking variable was negative but never approached significance.

As an additional test, we include a dummy variable indicating whether the governor can run for re-election or not. Laws concerning this vary from province to province -- some have term limits while others do not. Unfortunately, since we were not able to obtain details on term limits for all provinces, the sample size is considerably reduced which makes it difficult to draw strong conclusions regarding this variable. The coefficient on the simple dummy variable is positive but statistically insignificant.<sup>34</sup> However, when the variable indicating whether the governor can be re-elected is interacted with an indicator that the governor is a member of the PJ, the coefficient becomes statistically significant and positive (Column (4), Table 5). Unfortunately, we are unable to include an interaction term for UCR or independent governors because there were no cases where a province with a UCR or independent governor who could be re-elected actually privatized the public provincial bank. Although this is consistent with the hypothesis that UCR governors who can be re-elected are less likely to privatize than other UCR governors, we are unable to test this formally.<sup>35</sup>

The positive coefficient on the term limit interaction variable indicates that privatization is more likely in those provinces where the (PJ) governor could seek an additional term. The coefficient on the blocking variable (indicating a non-PJ governor) becomes statistically insignificant once the interaction term is included. The additional dummy variable included for PJ governors who can be re-elected changes the omitted category from PJ governors who do not have PJ majorities in both houses to PJ governors who can not be re-elected who do not have PJ majorities in both houses. Together, these results suggest that only PJ governors facing re-election were more likely to privatize than other governors.<sup>36</sup> One possible explanation for this might be that governors who can seek re-election are more willing to take politically costly actions than those who can

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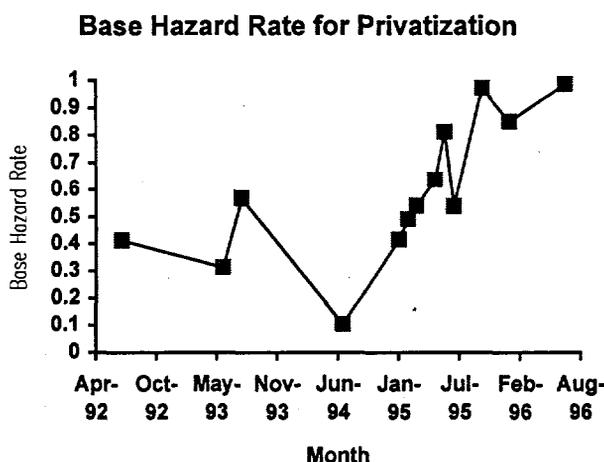
<sup>34</sup> Results available from the authors upon request.

<sup>35</sup> Since there were no observed cases where a UCR governor who faces re-election privatized the public provincial bank, the model tries to make the coefficient infinitely negatively large so that it predicts that opposition governors who can be re-elected will never privatize public provincial banks.

<sup>36</sup> Once again recalling that, in practice, whenever the UCR or an independent party can block, the governor is a member of the UCR or opposition party.

not. Another plausible explanation is that only governors who can be re-elected can fully internalize the benefits of privatization. If the costs of privatization (i.e. closing branches and realizing past losses) are immediate, whereas the benefits come over time, then politicians with short time horizons might be unwilling to privatize. Other than the coefficient on the share of loans made to the public sector, the other coefficients remain statistically significant at at least a 10% level.

As a final exercise, Figure 2 shows the estimates of the base hazard rate for each



**Figure 2: Base Hazard Rate.**

Figure 2, the figure suggests that after controlling for bank quality, provincial fiscal deficit and political affiliation of the governor and legislature, privatizations appear more likely after mid 1995.<sup>39</sup> One possible explanation for this is the Tequila crisis of

period when at least one bank was privatized.<sup>37</sup> Essentially this is the rate at which the surviving public provincial banks will be privatized after controlling for all independent variables.<sup>38</sup> The larger the base hazard rate, the more likely privatization is for any surviving public provincial bank in that period. Although it is hard to reach any strong conclusions based upon

<sup>37</sup> Estimates are only for those months when at least one bank was privatized.

<sup>38</sup> Technically, it is the rate at which surviving public provincial banks would be privatized if all independent variables were set to zero.

<sup>39</sup> Two additional pieces of evidence suggest that the base hazard rate is not constant. First, when we estimate the model with a Weibull base hazard rate, we reject the null hypotheses that the base hazard rate is flat or monotonically decreasing. The fully parametric Weibull model, a special form of the proportional hazard model with base hazard rate  $\lambda_0(t) = p t^{p-1}$ , has a monotonically increasing base hazard rate if  $p$  is greater than one, monotonically decreasing base hazard rate if  $p$  is less than one, and a flat base hazard rate if  $p$  is equal to one. The point estimate of  $p$  from our model is greater than one, and the null hypothesis that it is equal to one can be rejected at conventional significance levels. Second, as Kalbfleisch and Prentice(1980, p.32) note the exponential hazard model is also a special case of the proportional hazards

December 1994. Many public provincial banks lost substantial deposits immediately following the crisis.<sup>40</sup> The resulting liquidity crunch might have changed the political calculations regarding bank privatization for provincial politicians. Aside from highlighting the weaknesses inherent in public provincial banks' operations, the crisis may have enabled providers of liquidity (i.e., the Central Bank and the World Bank) to impose pressure upon the provinces to privatize. This result is consistent with the hypothesis that exogenous shocks makes privatization more attractive.<sup>41</sup> Another plausible explanation is that provinces' decisions were influenced by privatization outcomes in other provinces. As the number of privatized provincial banks increased, pressure to privatize surviving public provincial banks might also have increased.<sup>42</sup>

## 5. CONCLUSION.

The main findings from the empirical section of the paper are:

1. Peronist (PJ) governors were, in general, far more likely to privatize their province's public provincial bank than governors who belonged the Union Civica Radical (UCR) party or other independent or regional parties. The estimated hazard rate for Peronist governors was six times the estimated hazard rate for governors from other parties. This result is consistent with the hypothesis that fiscally conservative politicians are more likely to privatize than other politicians.

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model with a constant base hazard rate ( $\lambda_0 = \lambda$ ). The maximum likelihood estimator of the exponential hazard model will be efficient and consistent if the base hazard is constant over the entire period, while the partial likelihood Cox estimator will be consistent whether or not the base hazard is constant over the entire period, although it is not fully efficient. A Hausman(1980)-type test comparing the parameter estimates from the two models (for the model shown in Table 5, Column (2)) yields a  $\chi^2(8)$  statistic of 234.8. On that basis, we reject the null hypothesis that the base hazard rate is constant. (A similar test for the Weibull model rejects this model in favor of the proportional hazards model at conventional significance levels as well). As noted in footnote 26, parameter estimates from both the Weibull and exponential models are similar to the parameter estimates from the general proportional hazard model.

<sup>40</sup> As noted in Clarke and Cull(1997), the bank quality variables used in this section do not reflect the significant deposit losses suffered by many poorly performing banks especially well. This might mean that the crisis increased the cost of not privatizing, in a way not captured by the included bank performance variables.

<sup>41</sup> World Bank (1995), Chapter 4.

<sup>42</sup> Unfortunately, we are unable to test these hypotheses since only variables that differ across banks in any given time period can be included in the regression.

2. Poor quality public provincial banks were more likely to be privatized than better performing banks. This result appears quite robust across different specifications and to different measures of bank performance. Further, the probability of privatization appears to be extremely sensitive to bank performance. A 1% increase in net worth decreases the estimated privatization rate by 3%, while a 1% increase in the number of 'normal' (i.e. non-overdue) loans (as percent of total loan portfolio) decreases the estimated privatization rate by 4%. (See Table 4).
3. Controlling for bank quality and for the political affiliation of key government players, provinces in tight fiscal situations appear more likely to privatize their public provincial banks. This result is consistent with the hypothesis that exogenous fiscal crises can encourage privatization.<sup>43</sup> However, the probability of privatization does not appear to respond as strongly to poor fiscal performance as it does to poor bank quality.
4. The probability that provinces would decide to privatize remaining public provincial banks appears to have increased over time, after controlling for the other variables in the analysis. Although it is impossible to draw strong conclusions as to why this occurred, possible reasons include that either (i) the Tequila crisis of December 1994 or tougher provisioning requirements and supervision increased the costs that public provincial banks imposed on the provinces or (ii) political pressure on provinces who had not privatized increased as privatization became more widespread.

This paper demonstrates that political incentives play an important role in the timing of bank privatization. Although the hypotheses were tested for a specific industry, it would seem reasonable that similar results might also hold for other industries -- fiscal crises might make privatization of many poorly performing public enterprises more attractive to politicians. Understanding the factors that affect the decision to privatize will allow advocates of privatization to know when pressure can most fruitfully be applied.<sup>44</sup> In addition to demonstrating the importance of political incentives, this paper also suggests several policy prescriptions that might encourage the privatization of the

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<sup>43</sup> World Bank (1995), Chapter 4.

<sup>44</sup> On the political side, this may argue for a better understanding of the support base of those policy makers that oppose privatization. If constituents that elect legislators to block privatization could be won over, the process might proceed more rapidly.

remaining publicly owned banks in Argentina, and more generally, to encourage the privatization of poorly performing public banks in other countries.<sup>45</sup>

Poor bank performance, and the pressure this puts on public finances, seems to have been one of the key variables that affected the decision to privatize. Since the rigorous audits that followed the decision to privatize (and preceded the break-up of the public provincial bank into a privatized provincial bank and a residual entity) often revealed that the public provincial banks were performing far worse than previously believed, more rigorous auditing of public banks might increase pressure to privatize.<sup>46</sup> More tentatively, the results also suggest that moves that increase the short-run cost of running banks according to non-commercial criteria might also increase the likelihood of privatization. For example, tightening provisioning requirements might increase the cost of carrying politically-motivated high-risk loans. A further implication, for other countries considering bank privatization, is that investing money to improve publicly owned banks prior to privatization (to make them more attractive to potential buyers) might have the unfortunate side-effect of reducing political pressure to privatize.

This study also allows us assess whether future provincial bank privatizations in Argentina are likely to be similar to those already observed. If the decision to privatize were primarily driven by provincial politics or were a response to an exogenous crisis, then the outcomes of future privatizations (e.g. the fiscal consequences) might be quite similar to the outcomes observed to date. However we find that the decision to privatize was affected by characteristics of the provincial banks, meaning that future outcomes might be quite different. Prior to privatization, most provinces split their public

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<sup>45</sup> Clarke and Cull (1997) shows that the privatized banks performed significantly better than the remaining public provincial banks. We note, however, that privatizing banks prior to improving prudential regulation and bank supervision might not prove to be wise. See Cull (1997) for some preliminary evidence on this question.

<sup>46</sup> This, of course, assumes that provincial politicians, and the public, are unaware of the bank's true performance. If, based upon privatizations in other provinces, they already suspect that the bank is performing far worse than its reported performance suggests, more rigorous auditing might have less effect.

provincial banks into a privatized bank, composed of the best quality assets and matching liabilities, and a so-called residual entity, composed of the poor quality assets and remaining liabilities. The province then sold the bank and retained the residual entity. A final observation is that, since the worst banks were more likely to be privatized, we would expect the observed size of the residual entities to be smaller in future privatizations.<sup>47</sup>

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<sup>47</sup> Clarke and Cull (1997) show the size of the residual entity depends upon the quality of the provincial bank's portfolio prior to privatization.

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Appendix 1. Results Omitting Banco de Provincia de Buenos Aires.

Table 6: Proportional Hazard Model for Bank Privatization (Buenos Aires Omitted)

	(1)	(2)	(3)	(4)	(5)
	Proportional Hazard Model (Monthly Data)				
<i>Prov. de Buenos Aires Included</i>	No	No	No	No	No
# of Banks	22	22	22	22	16
# of Privatizations	16	16	16	16	12
# of Months at Risk of Privatization	950	950	950	950	765
<i>Does the PJ control the assembly and the executive? (1=yes,0=no)</i>	-0.410 (-0.51)	-0.383 (-0.49)	-0.347 (-0.44)	-0.034 (-0.04)	-1.860 (-1.40)
<i>Can either UCR or independents block? (1=yes,0=no)</i>		-2.369** (-2.54)	-2.211** (-2.55)	-0.395 (-0.28)	-2.109 (-1.46)
<i>Can the UCR block in assembly or executive? (1=yes,0=no)</i>	-2.275** (-2.02)				
<i>Can independents block in assembly or executive? (1=yes,0=no)</i>	-2.504* (-1.88)				
<i>Bank net worth over liabilities (lagged)</i>	-15.395** (-2.53)	-15.388** (-2.55)	-16.390** (-2.81)	-16.468** (-2.76)	-12.112* (-1.88)
<i>% of bank loans to public sector (lagged)</i>	8.622** (2.68)	8.786** (2.89)	8.328** (2.87)	7.964** (2.75)	1.966 (0.40)
<i>% of bank loans considered "normal" (either definition) (lagged)</i>	-7.843** (-3.35)	-7.892** (-3.37)	-8.209** (-3.48)	-8.094** (-3.36)	-7.613** (-2.50)
<i>% of bank loans considered "normal" (old definition) (lagged)</i>	2.986** (2.17)	2.945** (2.19)	2.938** (2.16)	2.891** (2.04)	3.376* (1.90)
<i>Gov't deficit as share of revenues (lagged)</i>	10.069** (2.79)	10.157** (2.85)	10.070** (2.82)	11.241** (3.03)	8.656** (2.35)
<i>Gov't deficit (lagged) * blocking dummy</i>				-15.964 (-1.29)	
<i>Change in net worth over liability (lagged)</i>	-4.368 (-0.58)	-4.323 (-0.57)			
<i>If the governor is a member of the PJ, can he be re-elected?</i>					2.496* (1.95)
<i>Log Likelihood</i>	-23.33	-23.34	-23.52	-22.35	-14.56

t-stats in parentheses.

\* indicates significance at 10% level \*\* indicates significance at 5% level.

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