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LESSONS
FROM THE SOUTHERN CONE
POLICY REFORMS

Vittorio Corbo
Jaime de Melo

Few reform packages have led to as much controversy as those
in the Southern Cone countries of Argentina, Chile, and Urug-
uary. Some observers, notably in the press, have concluded that
the reform effort as a whole was a failure. Others, including the
present authors (1985a), have suggested that many of the microeco-
nomic reforms were quite successful and that most of the problems
were caused by macroeconomic management during the transition to
a more open economy. Still others have blamed unfavorable exter-
nal shocks (Sjaastad 1983). And some maintain that the sequence in
which the reforms were implemented was a major cause of failure

The lessons of the Southern Cone experience are of interest not
only to the economic historian. They are also of pressing practical
importance to policymakers in other developing countries, most of
whom are either adopting or contemplating reforms very similar to
many of the measures employed in the Southern Cone. This article
reviews the lessons. It complements our earlier paper (Corbo and
others 1986), in which we drew country-specific conclusions from
what our research suggested were the major failures in each country.
Here we ask whether the reforms were consistent with what seems to
be the emerging consensus on how to implement stabilization and
liberalization policies in developing countries. We review conditions
before the reforms began and summarize and evaluate the reforms,
paying particular attention to how far they deviated from today's
consensus. We then interpret the outcome of the reforms and draw
policy lessons.
By the early 1970s the three Southern Cone economies were among the most distorted of the middle-income developing countries. Expansionary demand policies combined with fixed or slowly adjusting exchange rates, pervasive price controls (over 90 percent of the basket of goods in the consumer price index was controlled in each country), and restrictive trade regimes; the result was accelerated inflation, bottlenecks in production, slow export growth, and chronic balance of payment difficulties.¹

For more than three decades, trade policies in all three countries were strongly biased in favor of import-substituting industrialization and against exports. All three countries had experimented with some mild trade liberalization: Argentina in the second half of the 1960s, Chile in 1956–62 and again in the late 1960s, and Uruguay in 1959. In each case, they had restored a very restrictive trade regime with widespread tariff and nontariff barriers.

Fragmentary evidence shows high effective rates of protection to domestic sales in each country: 84 percent in Argentina (1969), 151 percent in Chile (1974), and 384 percent in Uruguay (1968) (see tables 1–3). In all three countries, protection also varied widely across sectors—an indicator of distorted incentives—the piecemeal result of decades of pressure from different interest groups.

The three economies had become steadily less open since the late 1920s. As shown in tables 1–3, the ratio of total trade (exports plus imports) to gross domestic product (GDP) was 25 percent for Uruguay, the smallest of the three countries, in the early 1970s. Chile’s ratio was 20 percent, and Argentina’s 17 percent. These percentages were well below the norm for countries of similar size and development (see Chenery and Syrquin 1975).

All three countries were also in severe macroeconomic disequilibrium (see table 4). Both Chile (1973) and Argentina (1976) had large fiscal deficits, rapid inflation, and acute shortages of foreign exchange. Public sector deficits averaged 10 percent of GDP in Argentina in 1973–75, 16.1 percent in Chile during 1971–73, and 3.2 percent in Uruguay during 1971–73.² Only Uruguay was not in deep crisis by the early 1970s. It still had some foreign exchange reserves. But its per capita incomes had barely grown at all for twenty years.

**Stabilization Reforms**

**What Was Done**

The first task of the reform programs was to restore external balance and to rein in galloping inflation.³ In each country, governments first adopted an orthodox program that included a large devaluation with a unification of the different exchange rates, and an attempt to restrain monetary growth and public expenditures. In a second phase,
Table 1. Protection and Trade Openness in Argentina (percent)

A. Protection

<table>
<thead>
<tr>
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<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary activities</td>
<td>-8.0</td>
<td>Textiles</td>
<td>57.4</td>
<td>41.1</td>
<td>85.3</td>
</tr>
<tr>
<td>Processed foods</td>
<td>44.0</td>
<td>Clothing</td>
<td>95.0</td>
<td>79.2</td>
<td>131.6</td>
</tr>
<tr>
<td>Beverages and tobacco</td>
<td>95.0</td>
<td>Paper and paper products</td>
<td>29.0</td>
<td>30.8</td>
<td>74.9</td>
</tr>
<tr>
<td>Construction materials</td>
<td>31.0</td>
<td>Industrial chemicals</td>
<td>35.2</td>
<td>36.6</td>
<td>60.0</td>
</tr>
<tr>
<td>Intermediate products I</td>
<td>146.0</td>
<td>Other chemicals</td>
<td>17.0</td>
<td>0.0</td>
<td>-14.8</td>
</tr>
<tr>
<td>Intermediate products II</td>
<td>9.0</td>
<td>Rubber products</td>
<td>45.0</td>
<td>29.6</td>
<td>29.3</td>
</tr>
<tr>
<td>Nondurable consumer goods</td>
<td>50.0</td>
<td>Glass</td>
<td>41.8</td>
<td>12.3</td>
<td>14.6</td>
</tr>
<tr>
<td>Consumer durables</td>
<td>145.0</td>
<td>Other nonmetallic mineral products</td>
<td>11.0</td>
<td>0.0</td>
<td>-1.9</td>
</tr>
<tr>
<td>Machinery</td>
<td>120.0</td>
<td>Basic ferrous metal products</td>
<td>48.2</td>
<td>60.7</td>
<td>84.8</td>
</tr>
<tr>
<td>Transport equipment</td>
<td>207.0</td>
<td>Basic nonferrous metal products</td>
<td>44.5</td>
<td>47.0</td>
<td>88.0</td>
</tr>
<tr>
<td>Equally weighted arithmetic mean</td>
<td>83.9</td>
<td>Metal products</td>
<td>45.9</td>
<td>10.0</td>
<td>-11.5</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>69.7</td>
<td>Nonelectrical machinery</td>
<td>65.5</td>
<td>19.7</td>
<td>-4.7</td>
</tr>
<tr>
<td>Variability coefficient</td>
<td>0.8</td>
<td>Electrical machinery</td>
<td>61.3</td>
<td>55.7</td>
<td>77.6</td>
</tr>
<tr>
<td>Range</td>
<td>215.0</td>
<td>Transport equipment</td>
<td>87.2</td>
<td>29.7</td>
<td>3.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Scientific and other equipment</td>
<td>50.0</td>
<td>73.3</td>
<td>92.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Weighted average</td>
<td>52.7</td>
<td>37.1</td>
<td>39.1</td>
</tr>
</tbody>
</table>

B. Openness

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Share of foreign trade in GDP</td>
<td>36.0</td>
<td>39.4</td>
<td>15.6</td>
<td>17.0</td>
<td>19.2</td>
<td>17.6</td>
</tr>
</tbody>
</table>

Note: Estimates are based on price comparisons; 1977 estimates are for ninety products and probably underestimate protection because of the prevailing high real exchange rate in 1977 (see figure 1).


starting in 1978, they opted for exchange rate stabilization.

Governments expected these “orthodox” measures to be contractionary, but thought that their potential benefits would easily outweigh the temporary costs of recession. Restoring external balance was much more important in Argentina and Chile than in Uruguay. In Chile, the short-run recession was the deepest; the external shock in 1974–75 was the greatest (Corbo and de Melo 1987); and inflation was also reduced the most. In Argentina, where inflation was more rapid, concern about the political consequences of unemployment limited the stabilization effort (Fernandez 1985).

Anti-inflationary measures were considered insufficient to cure balance of payments difficulties, so each country also made a major effort
Table 2. Protection and Trade Openness in Chile
(percent)

A. Protection

<table>
<thead>
<tr>
<th>Sector</th>
<th>Effective protection</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1967</td>
<td>1974</td>
<td>1979</td>
<td></td>
</tr>
<tr>
<td>Consumer goods</td>
<td>138.8</td>
<td>189.7</td>
<td>13.2</td>
<td></td>
</tr>
<tr>
<td>Intermediate goods</td>
<td>172.9</td>
<td>139.6</td>
<td>14.0</td>
<td></td>
</tr>
<tr>
<td>Machinery and transport equipment</td>
<td>265.3</td>
<td>96.0</td>
<td>13.0</td>
<td></td>
</tr>
<tr>
<td>Equally weighted arithmetic mean</td>
<td>176.7</td>
<td>151.4</td>
<td>13.61</td>
<td></td>
</tr>
<tr>
<td>Standard deviation</td>
<td>279</td>
<td>60.4</td>
<td>1.7</td>
<td></td>
</tr>
<tr>
<td>Variability coefficient</td>
<td>1.57</td>
<td>0.399</td>
<td>0.124</td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>1,163</td>
<td>216</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

B. Openness

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Share of foreign trade in GDP</td>
<td>66.3</td>
<td>21.7</td>
<td>24.0</td>
<td>20.3</td>
<td>36.1</td>
<td>32.6</td>
</tr>
</tbody>
</table>

Note: Data on protection are simple averages.

to switch spending. They also eliminated multiple exchange rates for commodity trade and, more important, followed their initial devaluations of the exchange rate with a passive crawling peg regime. It was intended to maintain purchasing power parity adjusted by changes in the terms of trade.

What Should Have Been Done

Countries with rapid inflation will face complications if they try to liberalize their economies at the same time as stabilizing them. On the one hand, the success of stabilization depends on squeezing the economy as a whole; on the other, trade liberalization calls for the contraction of highly protected import-substituting firms and the expansion of export-oriented sectors. If both programs are applied simultaneously, the contractionary pressure on highly protected import-substituting activities might be too strong to withstand.

A second complication is the downward inflexibility of prices. To overcome this phenomenon, trade liberalization has to be accompanied by an initial devaluation of the exchange rate to achieve the desired improvement in the relative prices of exportables. However, the devaluation will also push up import prices, temporarily accelerating inflation.
Table 3. Protection and Trade Openness in Uruguay
(percent)

A. Protection

<table>
<thead>
<tr>
<th>Type of protection</th>
<th>1968</th>
<th>1978</th>
<th>1980</th>
<th>1981</th>
<th>1982a</th>
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<tr>
<td><strong>Nominal protection</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domestic sales</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Formal</td>
<td>263</td>
<td>86</td>
<td>40</td>
<td>46</td>
<td>60</td>
</tr>
<tr>
<td>Without reference prices</td>
<td>—</td>
<td>72</td>
<td>—</td>
<td>39</td>
<td>—</td>
</tr>
<tr>
<td>Implicit</td>
<td>—</td>
<td>25</td>
<td>36</td>
<td>38</td>
<td>41</td>
</tr>
<tr>
<td>Adjustedb</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>1</td>
<td>—</td>
</tr>
<tr>
<td>Export sales</td>
<td>4</td>
<td>16</td>
<td>16</td>
<td>1</td>
<td>22</td>
</tr>
<tr>
<td>Adjustedb</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—18</td>
<td>—</td>
</tr>
<tr>
<td><strong>Redundant protection on domestic salesc</strong></td>
<td>—</td>
<td>23</td>
<td>6</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td><strong>Effective protection</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domestic sales</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actual</td>
<td>384</td>
<td>—</td>
<td>—</td>
<td>75</td>
<td>—</td>
</tr>
<tr>
<td>Adjustedb</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>27</td>
<td>—</td>
</tr>
<tr>
<td>Unweighted</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>118</td>
<td>—</td>
</tr>
<tr>
<td>Potentiald</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>89</td>
<td>—</td>
</tr>
<tr>
<td>Adjustedb</td>
<td>—</td>
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<td>—</td>
<td>37</td>
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<tr>
<td>Unweighted</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>107</td>
<td>—</td>
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<tr>
<td>By sales category</td>
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<tr>
<td>Durables</td>
<td>—</td>
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<td>—</td>
<td>317</td>
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<td>Nondurables</td>
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<td>—</td>
<td>—</td>
<td>37</td>
<td>—</td>
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<td>Intermediates</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>101</td>
<td>—</td>
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<tr>
<td>Machinerye</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>286</td>
<td>—</td>
</tr>
<tr>
<td>Coefficient of variation</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>103</td>
<td>—</td>
</tr>
<tr>
<td>Export sales</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actual</td>
<td>37</td>
<td>—</td>
<td>—</td>
<td>30</td>
<td>—</td>
</tr>
<tr>
<td>Adjustedb</td>
<td>—</td>
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<td>—5</td>
<td>—</td>
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<tr>
<td>Unweighted</td>
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<td>—</td>
<td>39</td>
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<tr>
<td>Potentiald</td>
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<td>—</td>
<td>20</td>
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<tr>
<td>Adjustedb</td>
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<td>—</td>
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<td>—</td>
<td>33</td>
<td>—</td>
</tr>
<tr>
<td>Coefficient of variation</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>184</td>
<td>—</td>
</tr>
</tbody>
</table>

B. Openness

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Share of foreign trade in GDP</td>
<td>19.6</td>
<td>27.3</td>
<td>25.1</td>
<td>36.2</td>
<td>33.9</td>
</tr>
</tbody>
</table>

—Not available.

Note: All rates, unless otherwise noted, are weighted averages; product weights are at world prices.

b. Adjusted for exchange rate deviation from purchasing power parity.
c. Computed as the difference between the formal nominal rate of protection and the landed price (inclusive of customs duties) of corresponding imported goods.
d. Potential effective protection computed using formal nominal rates of protection.
e. Includes transport equipment.

Table 4. Macroeconomic Indicators for Chile, Uruguay, and Argentina, by Period, 1941–83

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td><strong>Chile</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Average annual growth (percent)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross domestic product</td>
<td>4.0</td>
<td>4.4</td>
<td>4.5</td>
<td>4.1</td>
<td>1.3</td>
<td>-1.8</td>
<td>7.8</td>
<td>6.9</td>
</tr>
<tr>
<td>Expenditure</td>
<td>4.0</td>
<td>4.5</td>
<td>4.0</td>
<td>5.1</td>
<td>1.3</td>
<td>-8.2</td>
<td>11.9</td>
<td>10.2</td>
</tr>
<tr>
<td>Exports*</td>
<td>11.6</td>
<td>3.4</td>
<td>9.4</td>
<td>11.8</td>
<td>9.9</td>
<td>23.5</td>
<td>7.9</td>
<td>20.4</td>
</tr>
<tr>
<td>Imports*</td>
<td>12.3</td>
<td>8.8</td>
<td>6.5</td>
<td>8.1</td>
<td>5.6</td>
<td>22.3</td>
<td>35.2</td>
<td>28.7</td>
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<tr>
<td>Gross fixed investment</td>
<td>—</td>
<td>41.8</td>
<td>1.7</td>
<td>5.3</td>
<td>-9.8</td>
<td>-7.8</td>
<td>16.7</td>
<td>17.8</td>
</tr>
<tr>
<td>Consumer prices</td>
<td>—</td>
<td>37.6</td>
<td>27.2</td>
<td>23.3</td>
<td>149.7</td>
<td>358.0</td>
<td>79.0</td>
<td>30.2</td>
</tr>
<tr>
<td>Average level</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fiscal deficit/GDP</td>
<td>—</td>
<td>—</td>
<td>1.6</td>
<td>2.1</td>
<td>16.1</td>
<td>5.1</td>
<td>1.3</td>
<td>-2.1</td>
</tr>
<tr>
<td>Unemployment (percent)</td>
<td>—</td>
<td>—</td>
<td>6.0</td>
<td>4.6</td>
<td>14.2</td>
<td>13.6</td>
<td>12.2</td>
<td>22.2</td>
</tr>
<tr>
<td>Real wage (1969 = 100)</td>
<td>—</td>
<td>—</td>
<td>98.0</td>
<td>98.0</td>
<td>69.0</td>
<td>82.0</td>
<td>100.0</td>
<td>82.0</td>
</tr>
<tr>
<td>Gross investment/GDP</td>
<td>—</td>
<td>10.0</td>
<td>15.4</td>
<td>14.4</td>
<td>12.1</td>
<td>16.0</td>
<td>14.0</td>
<td>16.7</td>
</tr>
<tr>
<td>Terms of trade (1968 = 100)</td>
<td>63.3</td>
<td>73.4</td>
<td>89.4</td>
<td>101.4</td>
<td>92.7</td>
<td>79.0</td>
<td>60.3</td>
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<td>Current account/GDP</td>
<td>—</td>
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<td>2.4</td>
<td>1.4</td>
<td>2.9</td>
<td>2.6</td>
<td>5.6</td>
<td>9.1</td>
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<td><strong>Uruguay</strong></td>
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<tr>
<td>Average annual growth (percent)</td>
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<td>Gross domestic product</td>
<td>4.0</td>
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<td>2.1</td>
<td>-0.4</td>
<td>4.3</td>
<td>3.2</td>
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<td>Expenditure</td>
<td>4.0</td>
<td>0.8</td>
<td>1.3</td>
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<td>-0.2</td>
<td>1.9</td>
<td>3.6</td>
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<td>Exports*</td>
<td>16.5</td>
<td>-3.7</td>
<td>6.5</td>
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<td>16.8</td>
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<td>10.2</td>
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<td>Imports*</td>
<td>16.3</td>
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<td>3.9</td>
<td>8.7</td>
<td>30.2</td>
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<td>-10.8</td>
<td>25.6</td>
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<td>Consumer prices</td>
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<td>23.2</td>
<td>47.9</td>
<td>49.8</td>
<td>62.7</td>
<td>69.2</td>
<td>51.3</td>
<td>54.2</td>
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<tr>
<td>Average level</td>
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<tr>
<td>Fiscal deficit/GDP</td>
<td>—</td>
<td>—</td>
<td>1.9</td>
<td>3.2</td>
<td>3.8</td>
<td>1.9</td>
<td>0</td>
<td>6.4</td>
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<tr>
<td>Unemployment (percent)</td>
<td>—</td>
<td>—</td>
<td>8.2</td>
<td>8.1</td>
<td>9.7</td>
<td>12.4</td>
<td>8.4</td>
<td>13.7</td>
</tr>
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</table>

For countries with annual inflation of 25 percent or more, today's emerging consensus would therefore suggest that stabilization should precede liberalization (Fischer 1986a, Sachs 1986). This is because inflation reduces substantially the information content of relative prices, and the main aim of liberalization is to adjust relative prices in accordance with economic costs. Inflation also has other side effects that damage economic performance. These are well documented (Fischer 1986b, Yeager 1981) and are of four main kinds. First, with rapid inflation, changes in the rate do not affect all prices and costs uniformly and at the same time. This makes relative prices very volatile, reducing their information value. Second, in countries with high inflation, interest rates are usually controlled. The result is negative real rates, which lead to credit rationing, distorted investment...
decisions, and a shrinking of the formal financial system. Third, because of uncertainty about future inflation, financial transactions tend to be concentrated in short-term instruments, thus reducing the supply of long-term investment finance. Fourth, rapid inflation is also associated with external crisis, as periodic attempts to control inflation through the exchange rate mean that the currency appreciates in real terms. The resulting balance of payments difficulties and capital flight reduce both actual and potential output.

The recommendation to start with a stabilization program also stems from the fact that successful liberalization depends on credibility and on having a stable and competitive real exchange rate. Both these objectives are difficult to attain when inflation is rapid. Not surprisingly, there are few historical examples in which stabilization

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**Table 4 (continued)**

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<tr>
<td><strong>Uruguay (cont.)</strong></td>
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<tr>
<td>Real wage (1969 = 100)</td>
<td>— — — — 104 102 86 70 64</td>
<td>— — — — 104 102 86 70 64</td>
<td>— — — — 104 102 86 70 64</td>
<td>— — — — 104 102 86 70 64</td>
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<td>— — — — 104 102 86 70 64</td>
<td>— — — — 104 102 86 70 64</td>
</tr>
<tr>
<td>Gross investment/GDP</td>
<td>14.0 14.0 11.3 10.1 13.7 15.6 16.1 13.5 13.5</td>
<td>14.0 14.0 11.3 10.1 13.7 15.6 16.1 13.5 13.5</td>
<td>14.0 14.0 11.3 10.1 13.7 15.6 16.1 13.5 13.5</td>
<td>14.0 14.0 11.3 10.1 13.7 15.6 16.1 13.5 13.5</td>
<td>14.0 14.0 11.3 10.1 13.7 15.6 16.1 13.5 13.5</td>
<td>14.0 14.0 11.3 10.1 13.7 15.6 16.1 13.5 13.5</td>
<td>14.0 14.0 11.3 10.1 13.7 15.6 16.1 13.5 13.5</td>
<td>14.0 14.0 11.3 10.1 13.7 15.6 16.1 13.5 13.5</td>
<td>14.0 14.0 11.3 10.1 13.7 15.6 16.1 13.5 13.5</td>
<td>14.0 14.0 11.3 10.1 13.7 15.6 16.1 13.5 13.5</td>
</tr>
<tr>
<td>Terms of trade (1968 = 100)</td>
<td>114.5 115.6 109.5 107.2 134.9</td>
<td>114.5 115.6 109.5 107.2 134.9</td>
<td>114.5 115.6 109.5 107.2 134.9</td>
<td>114.5 115.6 109.5 107.2 134.9</td>
<td>114.5 115.6 109.5 107.2 134.9</td>
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<td>114.5 115.6 109.5 107.2 134.9</td>
<td>114.5 115.6 109.5 107.2 134.9</td>
<td>114.5 115.6 109.5 107.2 134.9</td>
<td>114.5 115.6 109.5 107.2 134.9</td>
</tr>
<tr>
<td>Current account/GDP</td>
<td>— — 3.5 0.5 3.4 3.2 5.4 0.7 0.7</td>
<td>— — 3.5 0.5 3.4 3.2 5.4 0.7 0.7</td>
<td>— — 3.5 0.5 3.4 3.2 5.4 0.7 0.7</td>
<td>— — 3.5 0.5 3.4 3.2 5.4 0.7 0.7</td>
<td>— — 3.5 0.5 3.4 3.2 5.4 0.7 0.7</td>
<td>— — 3.5 0.5 3.4 3.2 5.4 0.7 0.7</td>
<td>— — 3.5 0.5 3.4 3.2 5.4 0.7 0.7</td>
<td>— — 3.5 0.5 3.4 3.2 5.4 0.7 0.7</td>
<td>— — 3.5 0.5 3.4 3.2 5.4 0.7 0.7</td>
<td>— — 3.5 0.5 3.4 3.2 5.4 0.7 0.7</td>
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**Argentina**

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<tbody>
<tr>
<td>Gross domestic product</td>
<td>2.5</td>
<td>3.5</td>
<td>4.4</td>
<td>4.2</td>
<td>2.9</td>
<td>0.8</td>
<td>0.9</td>
<td>-3</td>
<td>-3</td>
</tr>
<tr>
<td>Expenditure</td>
<td>-9.6</td>
<td>3.1</td>
<td>4.2</td>
<td>3.3</td>
<td>-1.6</td>
<td>3.4</td>
<td>-6.1</td>
<td>-3</td>
<td>-3</td>
</tr>
<tr>
<td>Exports</td>
<td>13.0</td>
<td>2.2</td>
<td>5.7</td>
<td>11.5</td>
<td>21.3</td>
<td>29.9</td>
<td>2.7</td>
<td>-33.5</td>
<td>-33.5</td>
</tr>
<tr>
<td>Imports</td>
<td>20.1</td>
<td>5.6</td>
<td>4.3</td>
<td>9.0</td>
<td>29.6</td>
<td>2.1</td>
<td>55.8</td>
<td>-15.6</td>
<td>-15.6</td>
</tr>
<tr>
<td>Gross fixed investment</td>
<td>-13.5</td>
<td>30.6</td>
<td>2.6</td>
<td>7.6</td>
<td>-1.1</td>
<td>-4.0</td>
<td>-3</td>
<td>-3</td>
<td>-3</td>
</tr>
<tr>
<td>Consumer prices</td>
<td>15.3</td>
<td>30.5</td>
<td>21.5</td>
<td>29.9</td>
<td>138.7</td>
<td>225.5</td>
<td>100.8</td>
<td>188.5</td>
<td>188.5</td>
</tr>
</tbody>
</table>

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**Average level**

| Public sector deficit/GDP    | 5.9     | 6.0     | 4.4     | 3.7     | 10.1    | 11.6    | 10.1    | 17.8    | 17.8    |
| Unemployment (percent)        | -9.6    | 3.1     | 4.2     | 3.3     | -1.6    | 3.4     | -6.1    | -3      | -3      |
| Real wage (1969 = 100)        | -13.5   | 30.6    | 2.6     | 7.6     | -1.1    | -4.0    | -3      | -3      | -3      |
| Gross investment/GDP          | 22.5    | 18.8    | 19.1    | 21.4    | 26.4    | 22.8    | 17.2    | 17.2    | 17.2    |
| Terms of trade (1968 = 100)   | 124.6   | 100.8   | 103     | 120.1   | 133.4   | 89      | 86.5    | 84.0    | 84.0    |
| Current account/GDP           | 1.9     | -0.5    | 0.2     | 1.5     | -2.1    | 1.8     | 1.8     | 1.8     | 1.8     |

---

— Not available.

a. Imports and exports are valued in dollars.
b. Data are for 1982-84

Source: National accounts and Corbo and others 1986, table 1; for public sector deficit/GDP in Argentina: Cavallo and Peña 1983.
and liberalization were achieved simultaneously. Indeed, one of the most extensive studies of trade liberalization has concluded that its failure stemmed mainly from the failure of the accompanying anti-inflationary programs (Krueger 1978, 1981).6

For countries with annual inflation rates of, say, 15–25 percent, stabilization still remains a high priority, but liberalization can be introduced at the same time. However, any stabilization program should avoid measures that could jeopardize successful liberalization: the most obvious example is real exchange rate appreciation.7 Nor should export taxes be used in countries where the antiexport bias of the trade regime needs to be corrected.

In countries with inflation rates below 25 percent a year, macroeconomic policies should be designed to maintain an “appropriate” and stable real exchange rate. For economies operating fixed rate or crawling peg regimes, the initial reduction in tariffs should be accompanied by a devaluation that, although it would not restore the landed prices of imports, would ensure that the relative prices of exports improves (Mussa 1986). The same applies to those countries that have long discriminated against exports.

Besides exchange rate policy, other macroeconomic reforms should also support and ensure confidence in the liberalization effort. Thus, monetary expansion should be compatible with the rules for pegging exchange rates, and fiscal policy should try to ensure that the budget deficit is compatible with the domestic credit expansion resulting from a stable pegging rule (Buiter 1986) and does not crowd out the financing of sectors that are meant to expand. Credit policy should ensure access to credit at competitive rates for the expanding sectors, while denying cheap credit to the previously heavily protected sectors (because its availability could retard their adjustment). And the labor market should be flexible enough to allow for a fall in the consumption wage in previously heavily protected sectors or a reallocation of labor toward the sectors that were previously discriminated against. Otherwise, unemployment will result.

**Evaluation**

The initial thrust of reform in the three countries was certainly in line with the framework suggested above. Yet several years after the contractionary policies had been applied, inflation remained disturbingly rapid.8

In Argentina, much of the public sector deficit continued to be monetized until late 1978. In Chile, although the public sector deficit was transformed into a surplus by 1978, the reduction of inflation was bound to take time, because retroactive indexation (Fischer 1984) was widespread (Corbo 1985a, 1985b). Uruguay’s inflation, although ini-
tially much lower than that of the other two countries, proved intractable because many nontradables were affected by spillover demand from Argentina (Hanson and de Melo 1985).

Persistent inflation prompted a major shift in tactics in all three countries. In a second phase of stabilization policy, the intended path of the exchange rate was preannounced, so as to control the evolution in the price of tradables as well as overall inflationary expectations. This policy corresponded to an “active” crawling peg and was clearly a departure from orthodoxy. In practice, the schedule of devaluations, known as the tablita, proved to be less than the difference between domestic and world inflation.

Proponents of the new approach thought that purchasing power parity (especially in Chile) and interest parity (in Argentina and Uruguay) would come fairly rapidly as the result of competition in free commodity and capital markets. In Argentina and Uruguay, the anti-inflationary policy took precedence over other economic objectives with the adoption of the tablita in December 1978. In Chile, too, bringing down inflation became a main concern when the tablita was adopted in February 1978. All three countries, but especially Argentina and Uruguay, sometimes used tariff reductions to impose price discipline rather than to rationalize the trade regime (see tables 5–7).

At the time, the exchange rate approach to stabilization was a seductive novelty. Several other countries—including Brazil, Israel, Peru, Portugal, Sri Lanka, and Turkey—flirted with it, hoping, like the Southern Cone countries, to avoid the recessionary costs known to accompany orthodox stabilization. But the others were more pragmatic than the Southern Cone countries, quickly abandoning the exchange rate strategy when tradable sectors became seriously uncompetitive.

Each of the three countries departed from our suggested framework inasmuch as they began to liberalize before inflation had fallen below 50 percent a year. This departure could conceivably be defended on the grounds that, with distortions so widespread, there were substantial gains to be had from liberalization. However, the danger of an inappropriate mix of policies was quite high. In particular, the three countries ignored one of the key ingredients of successful liberalizations—the maintenance of an appropriate and stable (but not necessarily constant) real exchange rate. In each country, the large real appreciation of the exchange rate after 1978 weakened the extent and credibility of the liberalization effort (see figure 1 on p. 126).

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**What Was Done**

Liberalization
Reforms

With different timing and intensity, all three countries removed price controls, liberalized interest rates, reduced restrictions on trade...
<table>
<thead>
<tr>
<th>Year</th>
<th>Stabilization</th>
<th>Liberalization</th>
</tr>
</thead>
<tbody>
<tr>
<td>1977</td>
<td>Monetary policy: (March) imposition of 120-day price control period to reduce inflation.</td>
<td>Domestic financial markets: (January) repeal earlier law that had nationalized bank deposits. Commercial policy: further relaxation of quotas on imports as foreign exchange reserves increase.</td>
</tr>
<tr>
<td>1978</td>
<td>Exchange rate policy: (December) preannouncement of peso/U.S. dollar exchange rates through end of August 1979.</td>
<td>Domestic financial markets: (October) authorization of use of gold coins in bureaus of exchange. External financial flows: progressive removal of restrictions on foreign exchange transactions of less than US$5,000 (June) to less than US$20,000 (September). Commercial policy: (December) elimination of prior peso deposit requirement for financing foreign trade; program announced for reduction of tariffs to 16 percent average and elimination of export taxes by 1986.</td>
</tr>
<tr>
<td>------</td>
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</tr>
<tr>
<td>1979</td>
<td>(January) preannouncement of peso/U.S. dollar exchange rates through end of December 1979. (October) preannouncement of peso/U.S. dollar exchange rate for January 1980 and of formula for determining future month-by-month rates.</td>
<td>-</td>
</tr>
<tr>
<td>1980</td>
<td>(September) announcement of peso/U.S. dollar exchange rate for January 1980 and following months. (December) announcement of peso/U.S. dollar buy/sell rates for December 1980 to March 1981.</td>
<td>-</td>
</tr>
<tr>
<td>1982</td>
<td>Monetary policy: (July) imposition of 100 percent reserve requirements for bank deposits and regulated credit allowances. Exchange rate policy: (July) re introduction of dual exchange rate system.</td>
<td>-</td>
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</tbody>
</table>

- Domestic financial markets: introduction of fractional reserve requirements for financial institutions; extension of central bank guarantee of deposits to all authorized institutions.
- Commercial policy: (June) 1978 tariff reduction program accelerated.
- Domestic financial markets: (April) guarantee on deposits raised.
- Labor markets: (July–August) attempt to obtain voluntary wage-price agreement.
- Domestic financial markets: (May–June) guarantee on deposits lowered.
- External financial flows: (September) authorization to sell foreign exchange obtained on commercial (85 percent) and financial (15 percent) markets.
Table 6. Stabilization and Liberalization Measures in Chile, 1973–82

<table>
<thead>
<tr>
<th>Year</th>
<th>Stabilization</th>
<th>Liberalization</th>
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<tbody>
<tr>
<td>1973-74</td>
<td>Fiscal policy: start of sale of publicly owned firms (300 sold by 1979).&lt;br&gt;Exchange rate policy: (October 1973) multiple exchange rate reduced to three-rate system; 300 percent devaluation and establishment of crawling peg.</td>
<td>Domestic product markets: (October 1973) many product prices deregulated.&lt;br&gt;Domestic financial markets: (May 1974) interest rates freed for capital market transactions by Financieras.&lt;br&gt;(October 1974) interest rates freed for commercial banks; 1974 maximum debt-capital ratio set at 20.&lt;br&gt;External financial flows: regulations governing inflows of external funds into Chilean banks liberalized.&lt;br&gt;Commercial policy: (late 1973 through 1974) new government removes quotas and reduces average tariff from 105 percent to 69 percent; maximum tariff rate cut from 750 percent to 140 percent.</td>
</tr>
<tr>
<td>1975</td>
<td>Monetary policy: restrictive monetary policy to cope with 1975 balance of payments crisis.&lt;br&gt;Fiscal policy: (early) reduction of deficit from 30.5 percent of GDP to 2.6 percent in one year; program involved an across-the-board cut of at least 19 percent in government spending on goods and services, sale of government assets, and improved tax collection.&lt;br&gt;Exchange rate policy: introduction of unified exchange rate.</td>
<td>Commercial policy: new tariff structure proposed with rates of 25, 30, and 35 percent for primary, semimanufactured, and manufactured goods.</td>
</tr>
<tr>
<td>1976</td>
<td></td>
<td>Commercial policy: following Chile's withdrawal from the Andean Pact, effective tariffs of 10–35 percent proposed for implementation by mid-1977.</td>
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<tr>
<td>1977</td>
<td>Exchange rate policy: devaluation amounts linked to consumer price index; inflation reduced to 3–4 percent a month.</td>
<td>External financial flows: (September) commercial banks authorized to intermediate capital inflows up to monthly ceiling of inflows of 5 percent of each bank's capital and reserves.</td>
</tr>
</tbody>
</table>
1978  
*Exchange rate policy:* tablita introduced with devaluation rate above monthly change in consumer prices to compensate for tariff cuts and lower rates thereafter.

1979
*Labor markets:* labor union activity generally diminished since 1973; collective bargaining now authorized at plant level only; wage floor set at previous wage indexed for consumer price increases.

*External financial flows:* global limits on external borrowing eliminated; controls now only overall 20:1 ratio of borrowing to capital and reserves and 5 percent limit on monthly inflows.

*Commercial policy:* uniform tariff of 10 percent set (except for cars with engines larger than 850 cubic centimeters).

1980  
*Exchange rate policy:* nominal rate fixed at mid-1977 level.

*External financial flows:* (April) limit on monthly inflows eliminated; only 20:1 overall borrowing ceiling and applicable reserve requirements retained.

1981
*Labor markets:* legislation enacted allowing workers to negotiate fringe benefits and employers to fire workers without giving cause; minimum coverage wage limited to workers age 21–65.

1982  
*Exchange rate policy:* (June) fixed rate abandoned; 18 percent devaluation.  
(August) initially "clean" but later "dirty" float.  
(September) new rate based on highest dirty float rate, with monthly devaluation in line with change in consumer prices.

*Labor markets:* (June) wage indexation suspended.  
(December) legislation enacted to correct distorting effect of wage floor.
<table>
<thead>
<tr>
<th>Year</th>
<th>Stabilization</th>
<th>Liberalization</th>
</tr>
</thead>
<tbody>
<tr>
<td>1974</td>
<td>Exchange rate policy: exchange rates for capital transactions freely determined; passive crawling peg for goods transactions.</td>
<td>Domestic product markets: (July) liberalization of domestic prices of nonessential goods begins (94 percent of consumer prices hitherto controlled). Taxation: (July) removal of personal income and inheritance taxes; corporate profits tax (25 percent rate) established with remission for exporters' reinvested profits. Domestic financial markets: (September) gradual lifting of interest ceiling on peso loans. External financial flows: (September) liberalization of capital market and regulations on foreign exchange holdings and transactions; de facto convertibility of the peso through unrestricted purchase or sale of assets denominated in foreign currency. Commercial policy: (July) removal of export taxes on beef and wool; removal of some administrative and financial restrictions on imports.</td>
</tr>
<tr>
<td>1976</td>
<td></td>
<td>Domestic product markets: (February) liberalization of prices of nonconsumer goods, except monopolies. (Later) liberalization of another 25 percent of consumer prices. Domestic financial markets: (March-September) domestic interest rates effectively freed; interest ceiling of 62 percent a year. External financial flows: (Midyear) authorization of foreign currency trading through other than commercial banks.</td>
</tr>
</tbody>
</table>
1977

**Domestic financial markets**: (midyear) relaxation of banking law limiting number of financial intermediaries.

(November) commercial banks permitted to pay interest on cash amounts.

1977

**Exchange rate policy**: (October) effective 90-day predetermination of exchange rate by forward sale of three-month treasury bills redeemable in U.S. dollars; official unification of formerly dual foreign exchange market.

1978

**Exchange rate policy**: (October) effective 90-day predetermination of exchange rate by forward sale of three-month treasury bills redeemable in U.S. dollars; official unification of formerly dual foreign exchange market.

**Domestic product markets**: (July) replacement of official predetermination of exchange rate by forward sale of price-fixing agency by new agency to promote competition and three-month treasury bills redeemable in U.S. dollars; price flexibility.

(August) liberalization of another 13 percent of consumer goods prices.

**Domestic financial markets**: (October) introduction of nil marginal reserve requirement and 20 percent unified legal reserve requirement.

**Commercial policy**: (December) initiation of tariff reduction program to achieve a uniform 30 percent tariff by 1985.

1979

**Exchange rate policy**: (October) capital and commercial market foreign exchange is unified.

**Domestic product markets**: (March) reduction of list of goods and services with administratively fixed prices.

**Taxation**: (November) social security taxes reduced; banking tax and tax concessions to exporters abolished; 18 percent value added tax imposed.

**Domestic financial markets**: (May) elimination of 8.4 percent banking tax and legal reserve requirements.

**Commercial policy**: (early) removal of interest subsidies for exports.

(February) acceleration of tariff reductions.

(September) further tariff cuts.

(November) elimination of remission of profits tax for exports and of subsidized credit to exporters.

1980

**Domestic product markets**: (June) official fixing of car prices because of lack of foreign competition; only 29 percent of consumer goods prices and 14 percent of agricultural prices still fixed.

1982

**Exchange rate policy**: (June) imposition of 10 percent import surcharge and 10 percent increase in reintegros.
and capital flows, and partly deregulated their labor markets (see tables 5–7). The sequence varied from country to country, although financial market deregulation proceeded rapidly in all three. Uruguay removed all controls on capital flows and on many prices early on, but was slower to liberalize foreign trade. It went furthest in reforming its fiscal system, eliminating income tax, and moving to a value added tax. Chile did most to abolish price controls and reduce trade barriers, but it maintained controls on short-term capital flows for a long period. It also retained some important labor market regulations. Argentina eliminated price controls and removed most restrictions on medium-term (more than one year) capital flows. It also got rid of many import quotas (with some important exceptions) before making some reductions in tariffs. Uruguay virtually eliminated price controls by the end of 1979, but did little to reduce protection.

Contrary to popular belief, only Chile liberalized its trade substantially. Effective rates of protection remained high in Argentina and Uruguay; pressure from foreign competition was felt only at the height of the overvaluation of real exchange rates. For example, in Uruguay redundant protection was not eliminated until 1981 (see table 7 and figure 1). At that time the bias against export sales was still 35 percent.¹⁰

As far as the reform of domestic financial markets was concerned, nonprice allocation of credit and strongly negative real interest rates had long been widespread in all three countries. Each began by progressively eliminating ceilings on interest rates and then reduced restrictions on financial intermediaries. Argentina went from 100 percent reserve requirements and directed credit programs to a decentralized fractional reserve system. The Chilean reforms began by allowing nonbank intermediaries to operate without interest rate controls. Then, over several years, interest rate ceilings for commercial banks were removed, and state-owned commercial banks were returned to the private sector. In Uruguay, starting in 1974, the government legalized dollar deposits and dismantled its directed credit programs; in 1977, it lifted controls on entry to the banking system.

Labor markets were changed little in the three countries. They continued to be controlled through penalties or prohibitions on labor dismissals, together with legislated wages and wage indexation. However, the weakening of trade union power in the early stages of the reforms amounted to some deregulation.

What Should Have Been Done

There is broad agreement on the general principles that define the contents of any liberalization package, but room for much disagreement on the sequencing, speed, and extent of liberalization. In highly regulated economies with widespread price controls, the right approach would be to lift price controls so as to improve resource allocation, while simultaneously deregulating domestic labor and capital markets. Financial markets should be deregulated (subject to appropriate rules for banking supervision) so as to improve the allocation of credit and thus of investment. Similarly, labor market restrictions should be lifted so as to facilitate the contraction of inefficient businesses and the expansion of new, efficient ones.

As for trade policies, quotas should first be replaced with equivalent tariffs. Then the range of tariff rates and their average level should be reduced, with the aim of achieving a low, uniform tariff. As a rule, there should be no discrimination between exporting and import-competing activities (Little and others 1970, Corden 1974, Balassa 1976).11

The implementation of reforms is more complicated, because it raises questions of dynamics (about which little is known). The literature covers two sets of issues: the speed of reforms and their sequencing.

Speed of reforms. In considering whether policies should be changed gradually or at a stroke, it is essential to remember that liberalization is not an end in itself, but a means to achieving a more efficient use of resources. Because resource allocation depends on expected prices, the credibility of the reforms is very important. They therefore need realistic timetables—and what is realistic may differ from one policy area to another and from country to country. Any reform package that ignores the pace at which individuals and organi-
zations can adjust—a variable that is partly determined by political circumstances—runs the risk of failure and undermines the credibility of future reforms. Indeed, the theory of rational expectations demonstrates that coherence and credibility are important in determining the likely effect of reforms on, for example, investment and labor hiring and thus on the program's success or failure (Calvo 1986a, 1986b).

Credibility can be enhanced by including policies that are intended to speed up adjustment. In regard to foreign trade, for example, the pace of liberalization must depend on how quickly resources can be expected to be reallocated to the sectors that have hitherto been discriminated against; otherwise substantial unemployment would result. The initial conditions in each country are an important factor: for example, the smaller the investment-GNP ratio, the slower should trade be liberalized. Similarly, the more competitive and flexible the labor market, the faster can trade liberalization proceed.

Financial deregulation can also be problematical if initial conditions are overlooked. For example, if a large proportion of the assets of financial institutions are held at rates below the market and lending rates are substantially negative in real terms, then deregulation of interest rates will create difficulties for existing institutions. In particular, if deposit and lending rates are deregulated simultaneously and new banks are allowed into the financial system, existing banks will be forced to pay market rates. They may then suffer substantial capital losses, jeopardizing the banking system's solvency. This implies the need for a transition phase, in which lending rates are deregulated, with deposit rates following gradually.

The liberalization of capital flows provides another example of the importance of taking initial conditions into account. The vital question is whether domestic interest rates are higher or lower than those prevailing abroad (when expressed in the same currency), since the difference between the two will determine whether there are net capital inflows or outflows. Large capital inflows will push up the real exchange rate, which in turn will jeopardize the success of trade liberalization (Bruno 1983, Corbo 1983, de Melo 1987).

Whatever the initial conditions, a substantial reform program implemented briskly and to an agreed timetable offers major advantages. First, the required reallocation of resources will not occur unless the reforms provide strong and clear signals. Second, an unduly slow pace of reforms will delay the emergence of export activities and of interest groups whose support for the reforms could help counter the antagonism of those who have been benefiting from the protective regime (Papageorgiou and others 1986).

Sequencing of Reforms. Here, too, economic theory offers little guidance about the optimal sequence for removing distortions when many markets are initially regulated. Given that the goal of liberaliza-
tion is to improve resource allocation, however, some broad principles can be derived. The first stage is to deregulate domestic markets to ensure that resources are reallocated. The second stage involves liberalizing foreign economic relations. It is usually argued that the current account of the balance of payments should be liberalized first, then the capital account. Much has been written on this issue (see McKinnon 1982, Frenkel 1982 and 1983, Krueger 1984, Edwards 1985).

Two arguments have been advanced for liberalizing domestic markets and the current account before the capital account. First, because asset prices are determined by the present value of income streams, income streams generated by distorted prices will result in assets being traded at distorted prices (Krueger 1984). Second, since asset markets typically adjust much faster than commodity markets, liberalization of the capital account could result in large capital flows—with unwanted consequences for the real exchange rate. By the same argument, the current and capital accounts must, by definition, be brought into line with each other, and thus the speeds at which they adjust must be harmonized. It is much easier to achieve this by slowing down capital flows than by accelerating the liberalization of the current account (Frenkel 1983, Edwards 1985). This point could be extended by arguing that, within the current account, imports respond faster than exports: thus, opening up the capital account first could jeopardize the trade liberalization by producing a sharp increase in imports much in advance of the export expansion.

**Evaluation**

The Southern Cone countries did not conform to the emerging consensus on the sequencing of liberalization. Argentina and especially Uruguay deregulated capital flows early on. The Uruguayan experience is interesting, since none of the perverse side-effects (such as real exchange rate appreciation) occurred so long as the exchange rate was not used to bring down inflation. Indeed, the contractionary effects associated with orthodox stabilization were avoided because of capital repatriation and domestic financial deregulation (de Melo 1987). These two factors, combined with a stable real exchange rate, were the keys to faster growth in 1974–78—though other factors, including higher savings and investment rates, also helped.

Chile, in contrast, followed the recommended sequence of liberalizing the current account first and the capital account later. However, a combination of retroactive indexation of wages and interest rates and substantial capital inflows produced a large real appreciation of the exchange rate, which put the trade liberalization in jeopardy.

In all three countries, the most far-reaching reform was the deregulation of financial markets. This is not surprising: one might reason-
ably expect much less resistance from threatened interest groups to financial liberalization than, say, a lowering of trade barriers or a freeing of labor markets. Eventually all three countries also decontrolled short-term flows of external capital—something rarely done in developing countries—but only Uruguay went all the way in this. In foreign trade, only Chile virtually eliminated protection.

As tables 5–7 show, deregulation was usually gradual. The exceptions were the removal of controls on capital flows in Uruguay and to a smaller extent in Argentina, and the sale of public enterprises in Chile. The reform process cannot be criticized for abruptness; indeed, trade liberalization in Argentina and Uruguay was, if anything, too little, too late, and too slow.

Outcomes

The results of the reforms can be evaluated in three periods. The first corresponds to the management of the macroeconomic crisis and the reduction of some microeconomic distortions (1974–78 in Chile and Uruguay; 1976–78 in Argentina). The second starts with the use of the exchange rate to bring down inflation, often referred to as the tablita period, and ends with the sudden reduction in foreign finance in August 1982. The third is the post-August 1982 period.

The First Period: Stabilization with Some Liberalization

During the first period, all three countries were gradually adopting anti-inflation policies and liberalizing markets. In Chile, as progress was being made in reducing the fiscal deficit and in controlling inflation, the terms of trade fell sharply. This resulted in a loss of real income of close to 5 percent of GDP. The decline in the terms of trade plus the big reduction in the fiscal deficit produced a severe recession: GDP fell by 12.9 percent in 1975. It then grew at an average rate of 8.3 percent a year in 1975–78. The urban unemployment rate, which had reached 15.0 percent in 1975 and 16.3 percent in 1976, was reduced to 13.3 percent in 1978. The inflation rate, which had averaged 358 percent a year in 1974–76, fell to an annual average of 79 percent in 1977–78. In spite of the sharp deterioration in terms of trade, exports grew in current dollars at an average of 23.5 percent a year in 1974–76 and 7.9 percent a year in 1977–78. The fiscal deficit was only 5.1 percent of GDP in 1974–76 and 1.3 percent of GDP in 1977–78. Real wages, which had dropped by 29.6 percent between 1971–73 and 1974–76, rose by 18.8 percent between 1974–76 and 1977–78 (table 4). The tariff rate inclusive of the real exchange rate peaked in 1975 and then declined, but was almost constant between 1977 and 1978.

The most unexpected results were the slowness of disinflation (despite a big reduction in the public sector deficit) and the high real...
interest rates that followed financial deregulation. The real interest rate on peso loans was 127.2 percent in 1975, 65.2 percent in 1976, 58.0 percent in 1977, and 43.8 percent in 1978 (Corbo 1985a). Different explanations have been offered for these high rates: the fiscal and monetary squeeze; restrictions on capital inflows; the high cost of financial intermediation arising from reserve requirements; the reduction in inflation which, though slow, may nevertheless have been unexpected; and distress borrowing by firms that had been heavily protected (Edwards 1986, Ramos 1984, and Zahler 1985). These explanations have not been corroborated, however, and they leave unanswered the issue of how to evaluate credit risk when loans carry such high real interest rates (an issue discussed later).

Argentina’s terms of trade loss was smaller than Chile’s and Uruguay’s at the beginning of the reforms. But its GDP growth was even slower than in the prereform period, although exports grew at an average of 29.9 percent a year in 1976–78, and the current account had a surplus equivalent to 2.1 percent of GDP. The average unemployment rate increased from 2.4 percent in 1973–75 to 3.4 percent in 1974–76 and would have been higher if the military government had not deliberately kept it low to prevent political unrest. Real wages fell by 33.3 percent between 1973–75 and 1976–78. The inflation rate, which had reached 443.2 percent in 1976, was reduced to 176.1 percent in 1977 and 175.5 percent in 1978 (Fernandez 1985). This slow pace of disinflation is not surprising, given that the public sector deficit increased from 10.1 percent of GDP in 1973–75 to 11.6 percent in 1976–78.

The freeing of Argentina’s domestic interest rates and most commodity prices in the middle of 1977 also resulted in positive real interest rates between the last quarter of 1977 (when they reached an annual rate of 10 percent) and the last quarter of 1978 (when they again turned negative until the end of phase 1 [Fernandez 1985, table 2]). Not surprisingly, these rates were lower than Chile’s, since capital inflows were not restricted.

In Uruguay, output grew right from the start of the reforms. This achievement was all the more remarkable because of the huge fall in the terms of trade during the reform years (table 8) in comparison with 1965–70 and the especially favorable period of 1971–73 (see table 4). Several factors accounted for this turnaround. First, the real exchange rate became less volatile after the passive crawling peg was introduced in 1972. Second, the antiexport bias of high tariffs was partially offset by the abolition of taxes on traditional exports and the introduction of incentives for nontraditional exports. On average, exports grew by 21 percent a year during 1974–76. Their growth was helped by the accompanying reduction in costs (for example, the fall in real wages) and by expenditure-switching policies.
The removal of quotas on imports of critical goods, together with increased public investment, dramatically boosted total investment (see table 4). Between 1974 and 1978, public investment rose by nearly 400 percent in real terms, while private investment doubled. As a result, GDP growth—which averaged barely 1 percent a year in 1955–73—rose to an annual average of nearly 4 percent between 1974 and 1978.

One other factor contributed to this dramatic change: a rise in capital inflows. Capital repatriation by Uruguayans and growing deposits by Argentines averted a severe drop in real liquidity (de Melo 1987). The inflows allowed Uruguay to prepay debt incurred under a stabilization plan of the International Monetary Fund. The cumulative totals of “net errors and omissions” in the balance of payments—a crude proxy for capital flight—went from an outflow of US$250 million for 1970–74 to an inflow of US$51 million for 1975–81.

The fiscal deficit, which averaged 3.8 percent of GDP during 1974–76, was brought down to 1.9 percent during 1977–78. Nevertheless, inflation (which had peaked at 97 percent in 1973) proved stubborn and averaged 51 percent a year over 1977–78. As in Argentina, the gradual lifting of ceilings on domestic interest rates raised average real borrowing interest rates. They went from a negative 30 percent in 1973 to a positive 3.6 percent in 1978 (Hanson and de Melo 1985, table 3).

The Second Period: Stabilization through Preannouncement of the Exchange Rate

At the start of this second phase, Argentina’s public sector deficit was still almost 10 percent of GDP; Chile still had a wage indexation mechanism that was bound to result in a real appreciation of the exchange rate; and Uruguay’s fiscal deficit increased substantially in 1981. The anti-inflationary programs in all three countries were flawed.

In this second period, domestic demand grew faster than output in the three countries (table 4). The gap was filled by foreign finance, and exchange rates rose in real terms (figure 1). The international depreciation of the dollar and the demand pressures on nontradables limited the effectiveness of anti-inflationary policies. In Chile, the annual inflation rate was reduced from 50 percent in 1978 to 20 percent in 1981 and to zero in early 1982, but the accumulated real appreciation of the peso was large. Argentina’s inflation rate only fell from 175 percent in 1978 to 101 percent in 1980. Uruguay’s rate actually rose, from 44.5 percent in 1978 to 66.8 percent in 1979; this was partly due to the deregulation of domestic beef prices in August 1978 and to demand pressures resulting from heavy spending by Ar-
gentine tourists. Inflation subsequently fell to 63.5 percent in 1980 and 34.0 percent in 1981.

In all three countries, increased imports and loss of export competitiveness combined to raise the current account deficit. In Chile, the deficit rose from 5.6 percent of GDP in 1977–78 to 9.1 percent in 1979–81; Argentina moved from a current account surplus equal to 2.1 percent of GDP in 1976–78 to a deficit of 1.8 percent in 1979–80; and in Uruguay the deficit increased from 3.2 percent of GDP in 1977–78 to 5.4 percent in 1979–81 (table 4). Because all three economies were booming, the average unemployment rate was reduced from 14.2 percent to 13.6 percent in Chile, from 12.4 percent to 8.4 percent in Uruguay and from 3.4 percent to 2.2 percent in Argentina.

At least two factors contributed significantly to the increase in domestic demand and the resulting current account deficits. First, particularly in Argentina and Uruguay, the real appreciation of exchange rates led to extra spending on imported durables while their prices were low (Dornbusch 1985). Second, the rise in asset values in all three countries during the boom phase produced a wealth effect on spending (Barandiaran 1984, Corbo 1983, Dornbusch 1985, Fernandez 1985, Hanson and de Melo 1985, and Harberger 1983).

As exchange rates continued to rise in real terms, so doubts grew about the sustainability of the tablita. These doubts were reflected in growing interest rate spreads despite the shrinking (Chile) or absence (Argentina and Uruguay) of impediments to short-term capital flows. Real interest rates rose sharply, adding to the difficulties of the tradable goods sectors. Toward the end of phase 2, companies were doing more and more borrowing to stave off bankruptcy and awaiting a bailout after devaluation (Diaz-Alejandro 1985, Tybout 1987).

The Third Period: Crisis

The inconsistency in the three countries’ economic policies became apparent in late 1980 in Argentina and in early 1982 in Chile and Uruguay. In Argentina, with an externally financed public sector deficit of over 10 percent of GDP and no prospect of fiscal reform, doubts about the sustainability of the exchange rate regime began as early as the first half of 1980. They were increased by the collapse in April 1980 of the BIR (Banco de Intercambio Regional), which prompted a 25 percent increase in the money supply in a single month. When President-elect Viola refused to make a commitment about future exchange rate policy, private capital outflows accelerated. The 10 percent devaluation in February 1981 was too little and too late and only exacerbated the crisis.

In Chile, despite a fiscal surplus in 1979–81 equal to 2.1 percent of GDP, the current account deficit reached 14.6 percent of GDP in 1981.
The exchange rate rose by 29.8 percent in real terms between the second quarter of 1979 (when the rate was fixed) to the last quarter of 1981 (Corbo 1985a). Doubts about the sustainability of the exchange rate started to set in, with inflows of private capital decreasing from US$1.6 billion in the second half of 1981 to only US$900 million in the first half of 1982. The monetary contraction that followed resulted in high interest rates and a sharp recession.

In Uruguay, the fiscal deficit (which hadfallen continuously through 1980) started to increase in 1981 with an underfunded social security reform. Meanwhile, the real exchange rate rose by 27.4 percent between 1978 and 1981—and even more relative to Argentina, after the latter's stabilization effort collapsed (Hanson and de Melo 1985). As doubts grew about the sustainability of the tablita, so outflows of private capital started to increase in 1981 (de Melo 1987). Thus capital flight started in Argentina and Uruguay (and to a lesser extent in Chile) before their economies were hit by the adverse external developments of the early 1980s.

The debt crisis that began in August 1982 and the interruption of voluntary capital flows had severe consequences for all three countries. Chile's private sector was too dependent on foreign financing; the same was true of Argentina's public sector; Uruguay was somewhere in the middle. The debt crisis closed the option of using public borrowing to finance outflows of private capital, but the private sector had in fact already started to adjust. The August 1982 crisis therefore implied a faster cut in domestic demand and a faster real depreciation of the exchange rate. The stickiness of nontradable prices and wages made the recession even worse. Chile abandoned its exchange rate regime in June 1982; Uruguay did so in November 1982.

How important were the external shocks? The interest rate shock, which began to be felt after U.S. interest rates starting rising at the end of 1979, affected not only the cost of new borrowing but also the interest on existing debt. This latter effect was particularly strong in the three Southern Cone countries during 1982–83, because much of their debt carried variable interest rates. As shown in table 8, the combination of declining terms of trade and increasing interest costs amounted to 12.2 percent of GDP in Chile and 6.7 percent of GDP in Argentina. However, external shocks were insignificant during 1979–81—which was when the unsustainability of the stabilization programs based on exchange rates became apparent.

The results in table 8 were confirmed by simulation of an econometric model estimated with annual data for 1962–83 (Corbo and de Melo 1987). In Chile, where external shocks were heaviest before the crisis, the simulations suggest that, if the average interest rate of 1974–79 and the terms of trade of 1980 had prevailed during 1981–83, GDP growth would have been only 2.1 percent a year and external

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Table 8. External Shocks in Argentina, Chile, and Uruguay

<table>
<thead>
<tr>
<th>Country and period</th>
<th>Terms of trade (1)</th>
<th>Interest rate (2)</th>
<th>Total (1) + (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1976–78</td>
<td>-2.9</td>
<td></td>
<td>-2.9</td>
</tr>
<tr>
<td>1979–80</td>
<td>-0.3</td>
<td>2.8</td>
<td>2.5</td>
</tr>
<tr>
<td>1981–82</td>
<td>-0.3</td>
<td>-6.4</td>
<td>-6.7</td>
</tr>
<tr>
<td>Chile</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1974–78</td>
<td>-5.7</td>
<td></td>
<td>-5.7</td>
</tr>
<tr>
<td>1979–81</td>
<td>-1.9</td>
<td>0.2</td>
<td>-1.7</td>
</tr>
<tr>
<td>1982–83</td>
<td>-4.8</td>
<td>-7.4</td>
<td>-12.2</td>
</tr>
<tr>
<td>Uruguay</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1974–78</td>
<td>-7.6</td>
<td></td>
<td>-7.6</td>
</tr>
<tr>
<td>1979–81</td>
<td>-0.4</td>
<td>0.9</td>
<td>0.5</td>
</tr>
<tr>
<td>1982–83</td>
<td>1.9</td>
<td>-2.9</td>
<td>-1.0</td>
</tr>
</tbody>
</table>

—Not available.

Note: The real income effect of changes in terms of trade is computed from import and export unit value indexes weighted by the import share of GDP. The interest rate effect is calculated as

\[
\frac{i - P_x}{1 + P_T} = (P_x + P_M) 0.5
\]

where \( P_x \) and \( P_M \) are percentage changes in the export and import price indexes, and \( i \) is computed from the World Bank, World Debt Tables 1986 as the ratio of interest payments to disbursed debt and expressed in terms of GDP by multiplying it by the debt-GDP ratio. \( P_M \) is measured by the export unit value of industrial countries from the International Monetary Fund, International Financial Statistics. The same methodology is used in Sachs (1985). Changes are computed with respect to the previous period.

Source: Corbo and de Melo 1987.

debt at end-1982 would have still been 87 percent of its actual value. In a further simulation in which a more normal expenditure path was assumed, average GDP growth in 1981–83 would have been 2.7 percent, and end-1982 external debt would have been only 67 percent of its actual size. This more favorable outcome comes from smaller external borrowings and lower real wages which would have benefited employment, especially in nontradables. Simulation results for Argentina and Uruguay were even less significant than for Chile.

The first lesson relates to the microeconomic efficiency effects of the reforms. These are difficult to detect, because the reforms did not last long. This was especially true of Argentina, where deregulation was mostly confined to the financial system.

Lessons

Vittorio Corbo and Jaime de Melo
Of the other two countries, Uruguay offers the clearest evidence. During 1955–73, GDP grew at 1.0 percent a year; during 1974–83, it grew at 2.4 percent. In the second period, too, private savings and investment rose relative to their earlier trend. Controlling for factors affecting private savings and investment, it is clear that the upward shift could be attributed not mainly to financial reforms, but to the reform package as a whole.3

In Chile, GDP growth was sustained in spite of slow growth in investment and employment, suggesting that increases in productivity and in capacity utilization were major contributors. Estimates of the growth in total factor productivity (TFP) for manufacturing show a sharp increase in the reform period: during 1960–70, TFP had declined by an annual average of 0.6 percent; during 1977–81 it grew by 2.5 percent (Mierau 1986). Further calculations from a simulation model for 1977–81—which took account of increases in capacity utilization during 1977–79—suggest that productivity gains induced by reform raised GDP in 1981 by 19 percent over what would have been achieved had the TFP growth rates for 1965–74 still prevailed (Condon and others 1985).

Evidence of productivity gains also comes from interviews with entrepreneurs in each country. Several noted that productivity had risen faster than they were expecting—the result of consolidation of product lines, manpower economies, and improvements in product quality to meet foreign competition (Corbo and de Melo 1985b).

Given that the reforms ultimately faced severe problems, how much did external shocks contribute to their failure? Not much evidently—our second lesson. The previous section showed that even in Chile, which was most damaged by external shocks, their contribution cannot account for the slowdown in growth during 1981–83.

The third lesson relates to the need for policies to be consistent. In particular, the macroeconomic framework must be supportive of liberalization. Argentina never reduced its public sector deficit below 8 percent of GDP, and meanwhile pursued mutually inconsistent exchange rate and fiscal policies. This was especially true of the tablita phase, when the deficit fed the growing expectations of devaluation during 1980—which were in turn reflected in rising interest rates. The collapse of Argentina’s exchange rate regime has been thoroughly studied (Cumby and van Wijnbergen 1984 and Connolly 1985). Inconsistency of macropolicies was at its peak when the three countries were pursuing their exchange rate-based stabilization programs. These programs in due course reduced inflation temporarily, but meanwhile they set a financial trap for all three economies in the form of a powerful boom-squeeze-bust sequence that led to the abandonment of exchange rate policy. Furthermore, the anti-inflation measures were slow to work through commodity and financial markets, meanwhile
creating unsustainably large capital movements and rising real exchange rates.

The fourth lesson is that each country would have benefited from closer scrutiny of its banks. There is a crucial distinction between wholesale liberalization of financial markets and properly monitored deregulation. A clear understanding of this distinction could at least have mitigated several unfortunate developments:

- In Chile, banks allowed the debt of affiliated firms to rise even though these firms were doing badly and should have been forced to liquidate. Hence less credit was available for more profitable independent firms (Galvez and Tybout 1985).
- Bankers suddenly placed in a free market environment failed to recognize that the increase in interest rates tended to redirect their loans away from low-risk, low-return activities, resulting in “adverse selection” (Stiglitz and Weiss 1981). Better bank monitoring might have resulted in less upward pressure on lending rates.
- De facto deposit insurance provided incentives for undue risk-taking. Banks with poor portfolios were able to attract new funds by raising deposit rates, thereby forcing less-risky banks to match these rates.

The fifth lesson is that in Chile where a combination of external shocks and inappropriate macroeconomic management resulted in large debts and then a slump in 1982–83, the reforms were resilient enough to be maintained. Today, Chile is in a sustained recovery in spite of a large overhang of debt.

This article assesses the design of stabilization and liberalization programs in the Southern Cone countries of Argentina, Chile, and Uruguay. With the exception of Chile, the reforms were not as widespread as some believed. Little trade liberalization took place in Argentina and Uruguay, although some of the antiexport bias was reduced by eliminating taxes on traditional exports. In all three countries, labor markets remained fairly highly regulated, though it was easier to dismiss labor. In general, liberalization was gradual: even Chile’s trade liberalization spanned five years.

The article also shows that the collapse of the three economies in the early 1980s cannot be ascribed mainly to terms of trade and interest rate shocks. The main causes of failure were poorly designed programs and poor implementation. These errors included restrictive wage legislation (Chile) or political instability combined with a preoccupation with keeping unemployment as low as possible (Argentina). Monetary policy to deal with growing fiscal deficits was inconsistent with the accompanying exchange rate policy (Argentina throughout its reform period and Uruguay toward the end of its reforms). Financial deregulation was not matched by appropriate supervision of the financial institutions.

The article suggests several policy lessons for countries attempting to resume growth and restore external balance through a combination of liberalization and stabilization policies. First, it finds evidence that reductions in distortions produced efficiency gains in Chile and Uruguay even though Uruguay’s reforms were short-lived. Second, the article shows that policy inconsistencies undermined the credibility of the later stages of reform in all three countries, eventually producing a crisis. Third, it presents data...
that call into question the use of exchange rate-based stabilization, because of the slow convergence of domestic prices and interest rates to international levels, which in turn can produce unsustainably large capital movements. Fourth, the article stresses the need for caution in financial deregulation.

Notes

We thank Edgardo Barandiarán, Julio Nogues, and William Tyler for their comments. We also thank Ricardo Caballero and Gabriel Castillo for research assistance, Myriam Bailey and Jackson Magargee for word-processing, and Peter Bocock for editorial help.

1. The introduction of crawling peg exchange rate regimes in the mid 1960s in Chile and later in Uruguay (1972) and Argentina did reduce the more extreme fluctuations in the real exchange rate, but imbalances persisted.

2. Annual inflation rates approached 1,000 percent in Chile (September 1973), 2,300 percent in Argentina (March 1976), and 100 percent in Uruguay. The fiscal deficits were substantial well before the collapse of the civilian governments (table 4). In Argentina and Chile inefficient public enterprises contributed to high public sector deficits.

3. Much has been written in the last three years on this topic. Our purpose here is to summarize the main reforms. This section draws mostly on Corbo and others (1986) and Corbo and de Melo (1985a). Other references are Calvo (1986a), Edwards (1985), Harberger (1982), Rodriguez (1982), and Sjaastad (1983).

4. Chile's substantial and chronic fiscal deficit was eliminated by drastic across-the-board expenditure cuts (amounting to 15 percent in 1975 alone), followed by a tax reform. In Uruguay the fiscal deficit was reduced yearly until 1980. Much credit should be given to the rationalization of taxation, including the introduction of a value added tax, which improved fiscal performance compared with the poor record of the prereform period (see Harberger and Wisecarver 1977). In Argentina, on the other hand, the fiscal deficit was never controlled (Cavallo and Peña 1983).

5. In Chile, the switching was achieved through a large real devaluation and reduction of barriers to imports. In Argentina, switching efforts included a combination of real devaluation, reduction of taxes on exports, and some reduction of import barriers. In Uruguay, expenditure switching was combined with a real devaluation, reduction of barriers to imports, and introduction of subsidies for nontraditional exports.

6. Other recent analyses of stabilization and liberalization policies (Killick 1984 and Lin 1985) have shown that simultaneous application of the two is unlikely to be sustainable and successful.

7. The view that real exchange rate appreciation to bring down inflation should be avoided owes much to Southern Cone experience with this policy, as will be discussed later.

8. Chile's rate of inflation was around 50 percent in late 1977, Argentina's was 166 percent in late 1978, and Uruguay's was roughly 50 percent in late 1978.

9. How stabilization based on exchange rate was supposed to work is described in Rodriguez (1983). Comparisons of the two approaches is provided in Dornbusch (1982).

10. For further discussion see Nogues (1986) and Petrei and de Melo (1985) on Argentina and Mezzera and de Melo (1985) on Uruguay.

11. For infant industries a timetable of reduction in protection over, say, a five-year period should be followed. See Balassa (1976) and Bell and others (1984). And, for countries with export earnings derived from natural resource-based products, it is appropriate and accepted to tax windfall gains during commodity booms and to offer rebates to producers during troughs. See Davis (1983).

12. Lessons from interviews with managers of manufacturing firms in the Southern Cone countries are summarized in Corbo and de Melo (1985b). They found that major efficiency gains were achieved in a short period for some firms but that others delayed...
adjustment because of skepticism about the reforms and, in some instances, because of high costs for severance payments.

13. Controlling for other factors, de Melo and Tybout (1986) showed that savings and investment rose during the reform period. However, they could not attribute this rise to reforms only in financial markets and suggested that fiscal reforms also played an important role.

14. For reference, the first major bank failures in each country occurred on the following dates: Argentina (BIR), March 1980; Chile (Banco Osorno), 1977; Uruguay (Banco Panamericano), 1979. In all cases depositors incurred no financial losses. The “moral hazard” effect is further elaborated in Diaz Alejandro (1985) and Tybout (1987).

References


In poor, but uncrowded rural societies, land rights are typically defined for groups rather than individuals. Within the groups, individual or family rights rest on elaborate traditions and customs. Such customs enforce group control over the use and disposition of land. Furthermore, to minimize social friction and ensure the group’s survival, the entitlement of individuals to specific tracts of land is transitory. As a result, some efficiency is lost, since people lack incentives to improve the land. But these losses are small as long as land is abundant and farming methods primitive.

The evolution of permanent and enforceable land rights is closely related to increases in population density, advances in farming technology, and the emergence of agricultural markets. As land becomes scarce, societies can no longer rely on long fallow periods to maintain land fertility. They must adopt fertility-restoring technologies, which require investment of capital and effort—and thus also require incentives for farmers to change their practices. One such incentive is the right to cultivate land continuously and to bequeath or sell it. One nearly universal development is a unified system of land documentation and registration, giving a land owner proof of ownership. If the registration system is effective and if the state can protect the owner from encroachment or unsubstantiated challenges to his land, then the system will indeed enhance security of ownership.

Land rights link up with another feature of agricultural development, the emergence of rural credit markets. Credit transactions often
require some form of collateral. Land is an attractive collateral, provided that the owner-borrower can assure the lender that the land can be transferred. Again, such an assurance is greatly enhanced by an effective system of land registration.

The importance of land rights to agricultural development is the starting point of this article. It then describes the evolution of land right systems in Sub-Saharan Africa, reviews the evidence from Africa on the implications of existing systems, and discusses the policy options.

Ownership Security: Theory and Evidence

The main (and obvious) effect of a lack of secure ownership is the uncertainty in a farmer’s mind about the value of improvements made to the land. This uncertainty tends to increase as farming becomes more commercialized. There is ample evidence that the incidence of land disputes and land grabbing by larger or more powerful farmers increases as the potential return to land rises (Baron 1978, p. 27; Clark 1969; Feeny 1982, p. 95; Kemp 1981, p. 15; Tanabe 1978; Tomosugi 1980). Uncertainty regarding ownership will also tend to affect the sale and rent of land, which would otherwise allow land to be owned or used by those who are likely to put it to best use.

Many studies have also highlighted the role of secure legal ownership in providing farmers with access to cheaper, longer-term, and more extensive credit. A land title is often a prerequisite for commercial or official bank loans (Dorner and Saliba 1981, p. 23; Sacay 1973; U Tun Wai 1957). As noted by Binswanger and Rosenzweig (1986), land has several attributes that are desirable as collateral. Farmers without secure title have to rely more on informal lenders, who usually charge much higher interest rates than those in the formal market. In some areas of India, for example, lenders charged 8–16 percent on secured loans, compared with 18–37.5 percent on unsecured loans (Panandikar 1956, p. 75). (However, as explained by Stiglitz and Weiss [1981], interest rates cannot be allowed to rise to equate supply and demand, and credit rationing is optimal.)

Titles may also increase the supply of all types of credit. In a study of land transactions in Thailand, Stifel (1976) observes that the title certificate is often deposited as security for loans from noninstitutional lenders, a practice that is not registered or recognized by law, yet is common for small, short-term loans. The creditors have no legal rights to the land, but by holding the documents they prevent the owner from selling the land. They also restrict the owner’s ability to borrow elsewhere and thereby incur excessive debt. In one village studied by Stifel, the number of these unregistered mortgages was three times that of registered mortgages.

A study in Costa Rica by Seligson (1982) showed that, before the
initiation of a titling program, 18 percent of the farms sampled obtained credit; after the program, 31.7 percent did so. Credit seems to have improved mainly for larger farms since the average farm size was 19 hectares for those title holders who received credit and 7.3 hectares for those who did not. (These results obviously reflected not only supply changes, but also shifts in demand.) Similarly, recent data from Jamaica (Inter-American Development Bank 1986) indicate that almost half of the recipients of titles under a new program went on to increase their borrowing. And a World Bank-sponsored study in Thailand (Feder and others 1986) found that more than 90 percent of the medium- and long-term loans were received by titled farmers—who formed only half of the sample. Legal owners, who were able to provide land collateral, obtained between 52 and 520 percent more credit than farmers without collateral. The interest rate on institutional credit was a third of the average rate charged on noninstitutional credit.

The effects of constrained and dearer credit are significant. Factor ratios and input levels tend to be suboptimal and investment to be lower than it would otherwise have been (David and Meyer 1980; Rosegrant and Herdt 1981). Suboptimal inputs lead to lower output per unit of land, and suboptimal factor ratios lead to lower output per unit of production cost.

These effects—less investments and land improvements, lower use of various inputs, and lower productivity per unit of land for farmers without secure titles—are summarized in figure 1, which is adapted from Feder (1987). It shows that, even when the availability of credit is not a binding constraint, insecure ownership can reduce productivity because farmers have less incentive to invest. Even when eviction and land disputes are rare, the lack of secure formal ownership could reduce productivity significantly if credit is an effective constraint on farmers’ activities. As land value is related
to its productivity, it follows that titled land is more valuable than untitled land.

Apart from these implications for productivity, the ownership systems also raise questions of equity. In some countries the procedures required to prove legal ownership are extremely complex and involve significant fees for lawyers, surveyors, and government departments. Since these costs vary little according to the size of the farm, larger landowners are better placed to afford them. By the same token, wealthier farmers usually have better access to information about land law, administrative procedures, and farm prices. They may therefore buy out poorer and less knowledgeable smallholders. One study of a land-titling system in Costa Rica found a high positive correlation (0.68) between farm size and the degree of ownership security in one of two provinces (Salas and others 1970). To safeguard the rights of the poorer farmers, governments could simplify procedures, disseminate information on land registration, and take the initiative themselves with a titling program.

**Land Tenure in Sub-Saharan Africa**

The systems of land tenure in Sub-Saharan Africa today can be understood only in their historical perspective.

**The Precolonial Era**


- The person who cleared land first was, in the absence of any more powerful claim, entitled to use it. The literature often refers to this person as the *maître du feu* (the master of fire, a reference to a common method of land clearing). Anybody who later tried to establish rights of use within the area already cleared and controlled had to seek permission from the maître (or his descendants, since rights were usually inherited by his progeny). Where there were no distinct lineages, permission had to be obtained from the chief (usually the village head). In such cases, the right to use land continued only so long as the farmer continued to live in the village head's jurisdiction and recognize his authority.
- When land was abundant, access to it was not difficult. It was obtained either by residence or by acquiring "membership" in a group—which could be done by tracing real or fictional genealogies. The admission of outsiders, even slaves, was common (Barnes 1954, Gluckman 1941, Van Velsen 1964). Thus ethnic identities, so
important during the colonial age, were less clearly defined and far more flexible. Once the right to use land was admitted, it could be passed on as a legacy.

- The crucial element for the continued control and use of land was to have enough people, be they relatives or slaves, to work the land.
- Given the primitive technology (mainly the hoe), the abundance of land, and the practice of shifting cultivation, land had little or no economic value. It thus made no sense to develop a system of rights to a particular parcel of land that could not be protected and had no utility until its fertility was restored. Accordingly, land was under group control, and individuals used particular bits of it. These areas of control expanded and contracted with the rise and fall of leaders.
- Under such systems of land use, one person could cultivate crops, while, on the same land, another could have rights to trees; or land could be used by cultivators during the cropping season and by herders in the off-season or during fallow periods.

The system was somewhat different under Islamic law (which, through conquest and influence, spread over Mali, Mauritania, Niger, and northern Nigeria in West Africa and to Somalia, Sudan, and Zanzibar in the East). As with other indigenous systems, land belonged to the “person who vivified it” (Anderson, 1954; Middleton 1961): the act of cultivation, or boring and enclosing underlying streams, gave the person doing so a right of ownership. But Islamic law differed from other indigenous rules in two respects: First, once land had been appropriated, nonuse did not mean a loss of ownership; that could happen only through conquest or sale. Second, Islamic law provided for defined rules of inheritance for both men and women, either as sharers or as residuaries (that is, after the sharers had received their specific shares of the property). In other indigenous systems, only patrilineal or matrilineal heirs could inherit rights. (In practice, though, under the Islamic system female entitlements to shares in land were usually bought by other heirs or residuaries.)

The Colonial Era

During the twenty-five years between 1885 and 1910, the African claims of nearly every major European nation—Britain, France, Germany, Portugal, and Belgium—were finally settled. The European powers were not troubled by considerations of ethnic homogeneity among the colonized; and as Hailey remarked, “the extent of the appropriation of indigenous lands has depended more on factors of climate or soil than on juridical arguments” (1957, p. 686).

The colonial attitude toward Africans was influenced by theories of
evolution. "Just as races were supposed to have evolved from a primitive 'state of nature,' so too was land tenure expected to evolve from the simple form of tribal ownership to individual ownership" (Sorrenson 1967, p. 27). In British colonies, the colonialsists regarded Africans as being on a lower evolutionary rung—and thus at a stage where land ownership would vest in chiefs, not individuals, and all rights to land would flow from membership of the chief's ethnic group. The French initially took the opposite view. They believed that only individual rights to land existed.

The respective philosophies of the colonizers initially influenced their systems of government. The British chose indirect rule through traditional leaders, who were free to make rules within their "spheres of competence," including land rights. The French policy was to assimilate: it drew no distinction between a dependency and metropolitan France. "Native chiefs" derived their powers from, and were subject to, the metropolitan government. Belgium merely stated that the Congo Free State was under the sovereignty of Belgium, but with a separate legal personality and laws. For Portugal, the practice of Christianity became the test of its policy of assimilation. These original distinctions gradually blurred as the practicalities of government affected the approach of all the colonial powers.

In defining the concept of land ownership, the colonial powers drew a distinction between occupied lands (which were therefore owned) and unoccupied lands (vacant and "without a master"). The unoccupied lands were deemed open to settlement, as happened in Kenya, Zambia, and Zimbabwe; or to lease by foreign concessionaries, as, for instance, in the Côte d'Ivoire and Congo; or for use for other public purposes. These distinctions were much influenced by European conceptions of title and property.

The colonialists were completely ignorant of the systems of shifting cultivation and of transhumance that were prevalent in Sub-Saharan Africa. As a result, the land available to Africans shrunk, despite a few protests (particularly by French scholars). The consequences were disastrous for the African population, particularly in the British settler colonies where logic was strained to provide land and benefits for the settlers.

Even more influential was the colonial belief that all occupied land was held in "communal tenure." This meant that individuals had only user rights to land, without the power to sell or mortgage it. "Ownership" was vested in chiefs as trustees for existing and future generations. Yet the British were not entirely consistent. In Uganda, for instance, Sir Harry Johnston (who was later to settle claims in Malawi, then Nyasaland) decided that the Ganda chiefs had absolute title to land. He thereby created a new system of tenure: mailo. The French, far more consistent, recognized individual title only if the
applicant went through the complex procedures of titling and registration; few did so. The Belgians tried for decades to discover what lands were used by, and needed for, subsistence cultivation by the Africans.

The logical consequence of insisting on communal tenure and the trusteeship of chiefs was to raise the status of chiefs. Where there were none, chiefs were appointed. In some cases, as among the Ashanti, failing rulers were propped up, and the development of individual rights to property was stifled. And chiefs were quick to exploit their position to establish or strengthen their control over land.

Indigenous farming was further affected by the creation of districts (British) or cercles (French and Belgian). Initially, the districts and cercles were based on ethnic identity, real or assumed. This method had two consequences. First, it necessitated and strengthened ethnic differences. Second, it restricted movement outside the district by the introduction of the “pass” system (a badge of both identification and confinement) and kept trade to within each district. In precolonial days, it had been relatively easy to become a member of a group, and the absence of well-defined boundaries permitted both shifting cultivation and migration. All that was changed: land for cultivation now had to be found within the district or cercle.

What the colonial powers did was to pacify a continent. No longer was war a means of acquiring land and labor. Colonialism also brought with it some improvements to sanitation and public health, which helped to increase the longevity of the African population. When, in the last decades of colonial rule, the conquest of malaria and control of the tsetse fly opened new areas for settlement and cultivation, faster population growth reduced the amount of cultivable land per capita. It became correspondingly more important to acquire land rather than labor.

The development of a land market was also restricted by prohibiting Africans from selling land to non-Africans. This prohibition prevailed even in Uganda, where individual title to land was recognized. And land transactions had to be undertaken by chiefs, not commoners. Only in the twilight of colonialism was a feverish attempt made to introduce individual land titling, and then only in some colonies. By then, it was too late.

Interestingly, the introduction of individual titles in Kenya was justified by the need to promote economic development. The colonialists’ earlier fears—for example, that in India individual titles had allegedly led owners to mortgage and sell their lands to moneylenders, resulting in widespread indebtedness and landlessness—no longer seemed to matter. The Swynnerton Plan for Kenya expressly recognized that some landlessness could be a consequence of introducing individual titles, but that this increase in landlessness was a necessary
price to pay for development and that the more progressive farmers would survive (Glazier 1985). This theme has been reaffirmed in subsequent five-year plans in Kenya.

Independence and After

After African nations attained independence, their approaches to land tenure varied. In Malawi, for example, the thrust toward individual tenure has been tempered by registering only family tenures in the Lilongwe Agricultural Development Division. In Swaziland, the desire to return to customary tenure has not been applied to land that was privately owned before independence. In Sierra Leone, the idea that individual tenure was conducive to economic development has been accepted, but not widely implemented. In Tanzania, the government then began experimenting with long-term leases to individual farmers (for thirty years, which could be extended to ninety-nine years). Only two countries have consistently maintained a single view: Côte d’Ivoire and Kenya. In both, the prevailing philosophy has been that individual tenure is essential to foster economic growth. Nonetheless, Kenya restricts the rights of an owner to sell, lease, or mortgage land by making the consent of a land board a precondition to such transactions.

African approaches to land tenure can be divided into three main types:

a. Countries that allow the acquisition of individual title: Côte d’Ivoire (without any restrictions on the power of the title-holder); Kenya and Malawi (with restrictions on the title-holder).

b. Countries that recognize different types of tenure: Senegal and Sudan (both individual title and nationalization of nontitled lands); Botswana, Ghana, Lesotho, Liberia, Mali, Sierra Leone, Swaziland, Uganda, and Zimbabwe (individual title, indigenous systems and public lands); and Cameroon (individual, group, indigenous systems and public lands).

c. Countries that vest title to land in the state, so that individuals have rights only of use and occupancy: Ethiopia, Mauritania, Nigeria, Tanzania, Zaire, and Zambia.

This classification needs to be qualified. First, there is an overlap between the countries in (b) and (c): where indigenous systems are recognized in group (b), this usually means that the individuals or groups covered by those systems have rights only of occupancy and use. In that sense, they share the approach of countries in (c): examples are Botswana and Zimbabwe. (A similar practice applies in Senegal and Sudan where, with the nationalization of untitled land, the government recognizes only user rights of occupants.) Second, in Malawi, indigenous systems are recognized for untitled land. Third, in
Ghana, rights of sale of land under indigenous systems of tenure are vested in chiefs—the approach first introduced by the British. Fourth, in all the examples it is assumed that the state holds paramount title to land. The classification above is not, of course, immutable. For example, both Mauritania and Sudan have passed legislation recognizing Islamic law as the governing framework of the nation. This is a contradiction in terms, since Islamic law recognizes individual title to land, the power to bequeath and sell land, and the power to make gifts of property, while Sudan still maintains the ideology of state ownership of land. In Mauritania, where the state grew out of conquest, land title is arguably vested in the state.

**Land as a Commodity**

The most important factors contributing to the development of a land market are the growth of population, the use of new technology and inputs, the development of markets for products, the growth of communications, and the rise of alternative uses for land. These influences are not easily separable. However, as Cohen (1980) points out, there has been a tendency to concentrate on the analytically clearest factor, population growth.

In the African context, three studies are worth noting. Lunning (1965) studied land transactions in Nigeria: three villages in Katsina province and seven villages in Sokoto between 1960 and 1962. He classified the seven methods by which land could be acquired: inheritance, gift, purchase, pledge, loan, lease, and share cropping. He defined purchase as “an outright transfer of land for cash”; pledge as “the right to use the land [that] is passed to another party in exchange for a money loan”; and loans as land entrusted to a friend for a year when the owner had more than he needed (to be distinguished from a lease, where there was a defined money payment). Lunning found that there was “to a certain extent, a relationship between density of population and the occurrence of sales but it does not explain all differences… In some ways, acreage of farm land available per head of population should be a more reliable ‘yard-stick’” (1965, p. 79). But, although this high ratio of population to cultivable land could explain land sales and leases (amounting to 31 percent of all transactions) in one village, it was not compatible with the prevalence of sales and leases in other villages where twice as much land was available per person. In these villages a more plausible explanation was the development of the road system and the greater accessibility to markets, which appeared “to be related to a greater occurrence in sale transactions of land. Villages off the beaten track have a far greater incidence of such customary transactions as inheritance and loan… Nearness to markets and subsequently easier accessibility to
capital may be reasons for a greater incidence of pledging” (1965). Lunning concluded that increasing demand for land had a decisive impact on land tenure patterns. The four factors he identified as being the most important were population growth, the introduction of cash crops, infrastructural development, and distance to major markets. But, he added, “none of these factors can be singled out as having had a singular influence on the demand; a number of them are usually involved” (1965, p. 178).

Roden (1971) studied farming among the Nuba of Sudan. Before 1940, they had cultivated both highlands and lowlands. In the highlands, the farming had been intensive, with terracing, manuring, rotation of crops, and planting of legumes. In the lowlands, where few people lived for fear of raids, shifting cultivation was the norm. On the plateau, the Nuba drew a distinction between homestead plots, which were near the terraced plots, and the main arable lands, which were some distance away from the homes. Where population density was greatest, there was a market in homestead plots and strict rules of inheritance: only the eldest son could inherit the homestead plot. Although in theory the state owned the land, sales of homestead plots were common, particularly to avoid rules that would otherwise result in inheritance by the mother’s brother’s son.

By 1940, however, the lowlands were no longer affected by raids. People started forming towns and growing cotton (which could not be grown on the plateau). In some highland villages, population pressure began to ease. Accordingly, the rules of inheritance were relaxed for the Nuba who had started farming on the plains, so that all sons could share equally in the property. The market in hill and homestead plots almost disappeared.

A similar picture emerged from Netting’s study (1965) of the Kofyar hill farmers on the Jos Plateau in Nigeria. The Kofyar farmed intensively on the plateau, with strict rules of inheritance and individual ownership of plots. On the hillsides, agriculture was shifting, and nobody had rights of access to a specific plot. When the Kofyar were studied again in the 1980s, they were farming the plains intensively and had developed a market in land: both changes had been assisted by the development of infrastructure and access to markets for their produce (Netting 1985).

Other factors that encourage the development of a land market include proximity to means of communication, such as a new road (Cobb and others 1980, Haswell 1975, Lunning 1965) or the main railway line (Bruce and Dorner 1982). Proximity to urban centers is also important: the possibility of alternative uses increases the value of land and turns it into a tradable commodity. An estimated 80,000 to 100,000 hectares of land are annually converted from agricultural to urban use in Sub-Saharan Africa (Hamer 1986). Hill’s (1963) study
of cocoa farmers in Ghana seemed to indicate that the cultivation of a cash crop is related to the development of a land market.

Finally, restrictions on mobility, particularly during the colonial regimes in some cases, resulted in the development of a land market much earlier than if people had been allowed to migrate to other, less populated, areas. An outstanding example was the development of a land market among the Kikuyu in Kenya (who lost most of their lands to settlers) long before such a market had developed, say, among their neighbors, the Mbeere.

**Household Appropriation of Land**

With the development of a land market, is there also a corresponding increase in individual tenure? The evidence on this is mixed. Studies by Berry (1975) and Okali (1983) suggest that the kin group continued to play an important role in the determination of ownership. However, others (Adegboye 1974, Food and Agriculture Organization 1984, Haswell 1975, and Levin 1976) suggest that, as the demand for cash crops grows, so more and more households appropriate land in defiance of indigenous rules. Land rights may be viewed as a bundle of distinct privileges (right to use, right to plant trees, right to rent, right to sell, and so forth). Over time, more of these rights are transferred from large social groups to smaller groups and eventually to households.

The pattern of this transfer appears to rest on a principle that is well known in Hindu law: where a farmer has acquired land with the help or common resources of his kin group, he has less individual control than if he has acquired the land from his own earnings and employs labor (paid in cash or kind). In all these examples, however, sales of land increase and so does the power of households (Haswell 1975, Hecht 1985).

The first rule of indigenous tenure is that a person is entitled to undisturbed possession of some allotted land as long as it is being used. The period of use varies according to the type of crops grown, so farmers often lengthen the period of use by planting trees. Thus, in Cameroon, for instance, the main purpose of planting cocoa and coffee is to retain undisturbed possession of the land so long as the trees survive (Levin 1976). Tree planting in Côte d'Ivoire and Zanzibar serves a similar purpose (Koby 1979, Middleton 1961). This gradual process of appropriation begins with the best land—the valley bottoms (as in Tanzania and Zambia), the oualo, fadama, and swamplands (in the Gambia, Nigeria, and Senegal). Because they retain some moisture, these lands allow cash crops to be grown in the off-season.

Over time, the rights of “outsiders”—the navettane in the Gambia and Senegal—are increasingly restricted. At first, they are allowed
access to marginal land. But as land values rise, other rights of outsiders are curtailed. They can no longer become members of the group, so cannot gain access to land (Haswell 1963, Hecht 1982). Restrictions are placed on the types of crops that tenants (or “stranger farmers”) can cultivate. For instance, in Ghana and Cameroon, tenants are not allowed to plant cash crops (Adegboye 1974, Dravi 1984); in Zanzibar, they are not allowed to plant trees, particularly the valuable kola tree (Middleton 1961). The basis for the restrictions is to deny tenants the opportunity of claiming title to land by virtue of their length of possession.

Implications

As colonial views of land law have been carried through into today’s independent countries, the land market in Africa remains distorted. In some areas only rights of use and occupancy of land are recognized by the state. In others, some of the rights of ownership—to transfer, mortgage, or lease land—have been fettered. This section discusses the implications of such distortions.

The Divorce of Law from Reality

When the legal system decrees that land cannot be sold or can be transferred only with bureaucratic (and frequently arbitrary) approval, law gets divorced from reality. Land continues to be sold or pledged, but in an informal market. The only result is that these sales or pledges are unenforceable in a court, so prices contain risk premiums that cause a deviation between the social value of land and its market value. Land sales may be disguised as the sale of trees or houses, as in Malawi (Ibik 1971); or as a pledge, with the pledgee paying an amount equivalent to the purchase price of the land so as to avoid getting the permission of the village headman, as in Nigeria (Lunning 1965).

During the colonial period the clearest examples of these market distortions came from West Africa, where the production of commercial crops (initially, oil palm) had led to the development of a land market even before colonialism began. In fact, in the Gold Coast (the coastal area of modern Ghana), land sales had started at the turn of the century and had been given judicial recognition (Grier 1981). In Nigeria, land sales had begun in the southern provinces even before the colony of Lagos was ceded in 1861 and were common in northern Nigeria in the first decade of the twentieth century (Rowling 1946, Watts 1983). However, the evidence of these transactions was discounted by the West African Land Committee in 1912 as being insufficient and inconclusive. As a result, land sales took place only “informally” (illegally) except where chiefs claimed that sales were for the benefit of the clan.
This inability to accept evidence of land sales, blurred by preconceptions of what “native” groups could actually do, afflicted other land commissions as well. In Kenya, the Carter Commission ignored evidence that land had been traded by Kikuyu and that, in the Kiambu region in particular, sales were common (Sorrenson 1967). In Tanzania, the cultivation of marketable crops and land sales were common among the Arusha, Sambaa, Hayya, and Chagga; the Sambaa did not even require the consent of kin to the sale (Hailey 1957, p. 782). Sales among the Sukuma in Tanzania began before the German occupation in 1891, but were stopped by the Germans (Malcolm 1953, p. 12). In Malawi, the Land Commission in 1921 did not accept evidence that in the Marimba and West Nyasa districts there were both land sales and individual titles to land.

Independence has not put a stop to land transactions. In Tanzania, Pitblado (1981) reports that in one village in the North Mkata Plain, some 16 percent of land was acquired by purchase; in another, the figure was 36 percent. In Lesotho, where land cannot be legally sold (and where urban and rural lands have equal value in the eyes of the law), Mosaase notes that as a result of land scarcity “a clandestine land market had developed and the indiscriminate selling of arable land for residential and commercial sites has become uncontrollable” (1984, p. 90). In Mali, land is inalienable in theory. In practice, though, sales of less fertile lands to stranger farmers take place, even though it is difficult to obtain data on such sales. In Niger, sales of land are increasing, although indigenous rules say that land cannot be sold (University of Arizona 1979). Ega’s (1979) survey of three villages in Zaria, Nigeria, showed that 18 percent of those surveyed had obtained their lands by purchase. He notes that “there is a significant prevalence of illegal commercial transactions in land and considerable mobility of land. In particular, purchase has become an important means of acquiring land” (1979, p. 291). Of the Volta region of Ghana, Nkunya says that “outright purchase... is becoming more and more common these days” (1974, p. 4). Even in areas where sales are recognized by law, cumbersome legal procedures mean that many transfers are not registered and the official record does not reflect reality.

Access to Credit with Land as Collateral

The widespread prohibition against mortgaging land does not stop land being used as collateral in informal transactions. The prohibition serves only to make the occupant more dependent on state largess or on the informal market where interest rates are much higher (Watts 1983). As Woodman (1967) demonstrates, lending practices increasingly take on the color of formal legal requirements (with witnesses to
transactions and documents); land mortgages are recognized in both Ghana and Nigeria. Nonetheless, the status of these transactions is blurred, which often results in litigation, especially when land prices rise. As Goody notes of southern Ghana “the different value that cocoa farming, large-scale mining and timber exporting had given to the land and its products created innumerable disputes that found their way right up to the Privy Council” (1980, p. 144). Land pledging was also found by Pitblado (1981) in four of the villages he studied (in one of these the land pledged amounted to 40 percent of the farming acreage). The pledging of oil palms in Nigeria continues despite its illegality, increasingly maturing into the right of sale by the mortgagee (Abasiekong 1981). As in the case of land sales, data on pledges are difficult to obtain, particularly in areas where Islamic law (with its prohibition against usury) prevails (Scott 1984, Watts 1983).

The Potential for Increased Inequality

Increased inequality, the fear of which is often cited as a reason for prohibiting land sales and mortgaging, could in fact be an important consequence of the prohibition. Inequality also arises where governments recognize sales only by people from a particular group (chiefs, for instance) or where transactions in land involve complex procedures with uncertain results. During the colonial period, the insistence that chiefs were trustees of the land encouraged them to use their office to their own advantage (Fallers 1955, Glazier 1985, Goody 1980). With growing shortages of land, chiefs were not reluctant to revoke allocations of land, particularly when outsiders were involved (Hamnet 1975).

Inequality is a consequence of prohibition for two other reasons. First, those who know the law (usually the wealthier and better-off) can use the system to their own advantage. Second, they are protected in land transactions because their status ensures that no action would be taken to dispossess them (see Bates 1981, pp. 53–61). And in Ghana, “many chiefs have benefited as a result of their control over land… to acquire bank notes, tractors… Where benefits did accrue to chiefs, they were not redistributed within the chiefs’ communities, with the result that the chiefs have become economically quite distinct from their subjects. At the same time, the institution of chiefs has been reinforced at a regional level by this new wealth of its office-holders” (Shepherd 1981, p. 177; see also Goody 1980). Similar consequences have occurred in Botswana (Lawry 1983, Peters 1983).

In their studies of land adjudication in Kenya, in the Embu District and among the Mbeere, Haugerud (1983), Brokensha and Riley (1980), Glazier (1985) and Njeru (1978) found that it was the influential people (including the chief) and the civil servants who used their
knowledge of the law to acquire land, at the expense of the poorer and less knowledgeable. Glazier (1985) shows that the chiefs take advantage of laws requiring proofs of genealogy and residence to expand the numbers of their kin, so that more land would be granted to them. Burial sites are also scattered as evidence of prior occupation (Glazier 1984, West 1972). In Nigeria, occupancy certificates under the Land Use Decree of 1978 were granted according to occupation and income. Koehn concludes that “most applicants for statutory rights of occupancy are prominent businessmen and senior civil servants” (1983, p. 467).

The advantages of knowledge (and literacy) tend to favor the urban dweller. In Senegal, for example, under the Law on National Domain of 1964 residents were allowed to establish title and request registration within six months from the date of passage of the law. However, “rural people, including those of the river basin, were generally unaware of this, and were not notified to present claims. Then all non-deeded lands became part of the National Domain” (USAID-RBDO 1982, p. 115). Women, too, have often been excluded from owning land: examples include the Tonga of Zambia (Colson 1963, Spring 1985), Nigeria (Spiro 1985), Kenya (Pala 1978), and Senegal (Gladwin and others 1987). And nomadic farmers have been affected—not only during the colonial era, when administrations regarded “unoccupied” lands as being lands without title (Baker 1975). After independence, the nationalization of unregistered lands has resulted in nomads’ losing their traditional routes. In Mauritania, Niger, Senegal, and Sudan, they have only a licence (which can be withdrawn) to pass over transhumant routes, but no easement (which is both recognized in law and enforceable).

Insecurity and Uncertainty

Uncertainty is an obvious consequence of any transfer that is formally illegal, both because it is not clear that the seller has the right to transfer land, and because the buyer fears government action to cancel the transaction. In some areas, the insecurity arises “not so much in fear of interference (with possession) by members of (the cultivator’s) own community but from the apprehension that the government may, for its own purposes—such as the need of land for public use or for alienation to colonists—disturb him in the possession of his holding” (Hailey 1957, p. 807). Thus, in Côte d’Ivoire, it is fear of expropriation by government that makes a farmer plant more coffee and cocoa, so widely spaced that the returns are “inefficient” and ten hectares produce what could have been obtained from three hectares of closely spaced trees.

Another barrier to greater productivity is the application of indi-
genous rules on tenure. They provide for an individual household to be granted as much land as it needs for subsistence; this rule prevails, for instance, in Lesotho (Hamnet 1975). Families are naturally inhibited in producing a surplus. If they do, they face additional pressure to redistribute the surplus—pressure that is "usually sufficiently great to inhibit both general economic development and rigid patterns of stratification" (Cheater 1984, p. xiv; see also Richards and others 1973).

The rule that a person in possession of property has only a right of occupation, not genuine ownership, is not conducive to productivity. This is largely a matter of inference, for there are no detailed studies of the link. However, the final report of the Tanzania National Agricultural Policy Task Force notes that

the present system of land ownership by village (with individual residents having a mere right of use) has the following constraints:

a. reluctance to invest in the cultivated area for a long-term improvement of the land;

b. unwillingness to expand crop acreage for fear of being identified as a person opposed to collective farming;

c. the issuing of short-term leases discourages long-term investments leading to mining of the land;

d. scaring off potential investors in agriculture due to uncertainty over ownership of land (1982, pp. 27-8).

Another important consequence of the indigenous system of tenure is its impact on labor mobility and, implicitly, on productivity. Although there are studies of the impact of taxes imposed by colonial regimes on labor and migration (Hailey 1957, Palmer and Parsons 1977, Synder 1981, Ward 1976) and on the introduction of cash crops (Pelissier 1966), no study has examined the impact of indigenous systems of tenure on labor mobility (except, very indirectly, Collier 1983). When statutes affirm only rights of use and occupation, the indigenous rules would apply. Non-Islamic rules construe any absence from allocated land as abandonment. This implies, of course, that some time must elapse (for instance, five years in Lesotho) before rights to the land can be assumed to have been surrendered. The threat of such rules being applied is growing as land becomes scarcer. The result is that some members of each household must always stay on the land and cultivate it, however inefficiently. The others, if they can move at all, do so only to urban areas.

*Titles to Land and Security*

The term "security" is often misunderstood in the literature. When it refers to the ability to use land for a certain period and for a defined purpose without disturbance, security of possession is usually
ensured under indigenous systems. It is clear that in most Sub-Saharan African societies, land under cultivation by an allottee cannot be taken away. Eckert (1980) notes that in Lesotho the average period of landholding is eighteen years which, adds Doggert, is “more than that prevailing in the United States” (1980, p. 20).

The situation, however, is entirely different when security is defined as the ability of an occupant to undertake land transactions that would best suit his interests—for example, to offer land as collateral for a loan. Transactions in the informal market become problematic when there is a question of selling the property (Haugerud 1983) or borrowing from commercial lenders (Abasiekong 1981, Haswell 1975). As Goody says:

In order to make loans for agricultural development, some “security” is required by both commercial and government banks. “Security” means a regular income (i.e., being an employee), a saleable (i.e., not a mud) house, or land (one’s own). Everybody of course has land, although subject to the rights of others. But if one is going to purchase a tractor or even a plough, one needs access to an increased acreage and the problem is showing that one has rights to that land. These rights have to be of a certain kind if they are to act as security under the contemporary rules and identifiable by a court, bank or government department as being linked, in effect exclusively, to the particular individual. And they have, in principle, to be disposable by him. Such identification is achieved by the registration of land in the name of an individual, which proves definite proof of “ownership” and hence security for loan (1980, pp. 144–5).

At times, even an officially granted occupation certificate can be valuable property. Seidman notes that possession of such a certificate in Nigeria confers private economic advantages: “major financial institutions treat these certificates as a necessary collateral against various types of loans, including bank mortgages, and commercial agricultural credit. Therefore, holders of statutory titles can gain access to domestic money markets and secure loans at favorable terms which can be utilized for private capital accumulation and investment” (1975, p. 642). Koehn adds that these statutory rights “provide a measure of legal, state-enforced security of tenure that is not afforded by customary rights, squatting or land purchases on the secondary market” (1983, p. 461). At times, however, title to agricultural land is regarded as inferior collateral compared with “urban properties, attachment of salaries and other forms of valuable property” (Okoth-Ogendo 1976, p. 175). This attitude could arise from the fact that in some areas it is difficult to enforce sales of mortgaged agricultural land when a mortgagor defaults.
Secure Ownership: Productivity and Efficiency

While the evidence seems generally to favor the conclusion that titled land opens up the commercial money market, it is scanty on the question of whether titling in Africa leads to higher productivity. Studies from other parts of the world, however, suggest that that is indeed what happens. In Costa Rica Salas and others (1970) found positive correlations between the degree of ownership security and farm investment per unit of land. Data from three states in Brazil in 1978 show that capital per hectare is substantially higher on titled farms than on undocumented or encroached land (Villamizar 1984). The analysis was done for different farm sizes, and within most groups the link applied. Analysis of data from three provinces in Thailand (Feder and Onchan 1987) indicates that the probability of investing in land improvements is significantly affected by possession of secure ownership, holding constant other factors such as location, soil quality, and farmers’ characteristics. Capital-land ratios were found to be markedly higher among titled farmers (again, controlling for various other attributes). Differences were more than 100 percent in some of the areas studied. Data from this study also indicated significantly greater inputs (labor, power, cash) per unit of land by legal landowners, compared with squatters and untitled farmers.

Several studies have focused on the impact of ownership security on output or income. The earliest study (Salas and others 1970) indicates a positive correlation of 0.53 between income per unit of land and ownership security on one province in Costa Rica. In another province, however, the correlation was negative, although quite weak (−0.07). A study of the state of Maranhao in Brazil (cited in Inter-American Development Bank 1986, pp. 186–89) concludes that the granting of full legal ownership to squatters and undocumented occupiers would increase their income by 200 percent. The same report quotes recent data from Ecuador indicating that the incomes of titled farmers were double those of untitled farmers, holding the amount of land constant (p. 187). Data from Thailand show much lower, but nonetheless statistically significant, differences in output per unit of land, in the range of 12–26 percent (Feder 1987). The analysis for Thailand controls several factors that may vary between titled and untitled farmers (for example, location, soil quality, and initial wealth), which could explain the fact that the productivity differences are smaller than those in the studies from South America. Although it would have been more appropriate to consider the impact of secure ownership on output per unit of total factor use, the data deal with the more readily observable output per unit of land.

Efficiency may also be damaged when farmers cannot use land as collateral for credit. For instance, in Costa Rica it has been reported
that cattle are a surer collateral than land when the farmer does not possess a full formal title. Farmers without title therefore tended to shift from crops to cattle raising, even though their land may have been better suited to growing rice and beans (Dorner and Saliba 1981, p. 23). In general, credit constraints may cause farmers to shift to crops and activities that need less working capital and farm machinery.

Uncertainty over continued access to land encourages squatters to prefer short-cycle crops. Recent survey results from Jamaica indicate that titled farmers had almost double the incidence of permanent and semipermanent crops than did untitled farmers. Indeed, a third of the recipients of titles under a government program reported that, following the change in their status, they planted more permanent and semipermanent crops (Inter-American Development Bank 1986, p. 189).

The proposition that the prices of titled land are higher was confirmed by Chalamwong and Feder (1986) in rural Thailand. Their results show that, in several areas, titled land of given quality and location was twice as expensive as squatters’ land. However, the difference in land prices was smaller in an area where farmers had access to substantial amounts of credit from traders (who do not usually require a formal land collateral).

There are few quantitative studies of the economic effect of secure ownership in Sub-Saharan Africa. Most are based on preconceived notions of the necessity for land titling. For example, Ike (1977) took data from western Nigeria and tested the hypothesis that a freehold system was inherently superior to communal land tenure. He concluded that his hypothesis was proved by the higher average incomes of freeholders. But he provided no information on how he selected the sample, nor any data indicating that the study controlled for differential access to inputs and extension, quality of land, and access to labor. Perhaps only two studies examine the consequences of granting individual title in a thorough and revealing way: Richards and others (1973) in Uganda and Cheater (1984) in Zimbabwe.

Richards and others (1973) tried to establish which factors tended to induce a switch from subsistence cultivation to commercial agriculture. The area for study was Buganda in Uganda, where in 1900 the British had granted absolute title to land to the king, his kinsfold, and other senior officials (mailo tenure, as it came to be known). Richards and others point out that Buganda had several advantages not enjoyed by many other areas: a developed transport system, immigrant labor (especially in the first four decades of this century), and towns in the midst of the farmland providing a ready demand for food. Fifty-eight percent of the farmers in the sample had bought their land. The authors conclude:
The mailo system itself... did not result in the commercial use of land by its owners for a period of some 40 to 50 years, though there were a few exceptions. Traditional attitudes to land ownership as a source of political power and prestige continued and during the first half of the century mailo land was important to its owners as providing rents from peasant tenants and also capital, through the sale and mortgage of portions of estates. The money so obtained was used to raise the standard of living of the owners and to provide for a European type of education for their children... Nevertheless the mailo system, by introducing the right of land purchase so early in the century as compared with the rest of East Africa, gave to the ambitious peasant the opportunities... and it certainly facilitated the purchase and development of the big coffee farms of the fifties which attracted Ganda traders, businessmen and others into commercial farming... A property market therefore grew up and a man with capital was able to buy land and start farming on his own account. This opened the way for the emergence of a class of commercial farmers (pp. 295, 313).

The authors emphasize the importance of capital. Those who did not hold mailo could raise capital through selling cotton, which was introduced in Buganda in the 1920s. It is interesting to note that the creation of a land market, permitting land mobility, allowed the commercially minded farmers (whom the authors characterize as "the men of profit") to buy land from the mailo holders who regarded land primarily as a source of status (they were "men of affairs").

Cheater (1984) studied African Purchase farmers in Msengezi, west of the Zimbabwean capital of Harare. African Purchase farmers were those who, after the Carter Commission's recommendations in 1925, were allowed to buy land in areas designated as African Purchase areas. Although it was suggested that these farmers should ultimately obtain freehold title, there were initially many restrictions (for example, a prohibition against subletting and a restriction of rights of residence to family members and hired labor). Furthermore, all transfers "were to be subject to government approval, whether or not title had been granted" (p. 6). Some 69 percent of the sample farmers were monogamous. Although the farmers were not entirely free of social obligations to their kin—they let some kinsfolk live with them—it was clearly understood that this residence was only temporary (except in the case of a mother or eldest son). In fact, the relatives were often evicted, unlike in the communal lands where such residents are permanent fixtures.

Cheater says that "less than 10,000 Purchase Land farmers account for one-third of the total value of marketed produce from African growers, the remaining two-thirds coming from approximately 600,-000... Communal Land households" (p. 11). These farmers, accord-
ging to Cheater, now express themselves in a modern idiom of status and prestige: "durable goods such as farm machinery and bank accounts... In earlier African societies, there were few opportunities to retain wealth in such material forms and crop surpluses were, therefore, converted into control over people, particularly over wives and children" (p. xiv). In 1974, 91.4 percent of the sample population possessed cattle; 86.3 percent, oxplows; 70.3 percent, cultivators; 61.7 percent, harrows; 41.4 percent, carts; and 12.1 percent, planters.

It is difficult to accept Cheater's inference of higher productivity among Purchase farmers in the absence of comparative data for these farmers and those on Communal Lands of similar soil quality. But the study confirms the more consistent commercial approach of the Purchase farmers, which also characterized the farmers in the sample from Buganda.

The evolution of land rights in Sub-Saharan Africa should not necessarily be viewed as a natural process, because some of the changes were the results of government intervention (either colonial or postcolonial). Such intervention is not always conducive to efficiency or equity—whereas market forces have tended to circumvent any restrictions that cause inefficiency. The issue is whether those market forces achieve the same efficiency that could have been obtained under a different institutional set up.

The evidence cited in this article dispels some of the popular misconceptions about land rights in Sub-Saharan Africa. In many areas there has always been individual possession; in others, it is growing. Even where communal ownership was imposed, cultivation and possession remained with individual households, and an increasing range of rights to land were appropriated by individual households. Land sales and mortgaging by individuals are common in many areas where such transactions are not legally recognized.

The lesson from other parts of the world is that efficiency requires individual land rights to be recognized in a way that provides sufficient security (either in the form of long-term leases or land titles). That stage may not have been reached yet in parts of Sub-Saharan Africa. But in other parts (sometimes only a region within a country), the justification for a change in land arrangements already exists. In such cases, what is needed is a careful analysis of the benefits and costs of different systems (for example, title deeds, title registration, and long-term leases), including equity considerations. The gain in efficiency may or may not outweigh the costs of introducing a new system.

Unfortunately, there is a shortage of rigorous quantitative research that would help to assess the costs and benefits of a policy change.

**Conclusions**
Such research is essential in Sub-Saharan Africa, where many policymakers and donors have preconceived notions of the ideal system, based on ideological considerations or inadequate data. Obviously, quantitative research has its own limitations: it tends to highlight measurable variables, while disregarding administrative constraints. There is no point in introducing a system of title registration, for example, where the capacity continuously to update the registers does not exist. A proper analysis should include the costs of providing such capacity, rather than simply assuming its existence.

Abstract

Links between land rights and agricultural development provide a conceptual framework to analyze land rights systems in Sub-Saharan Africa. The discussion demonstrates that land rights in Sub-Saharan Africa evolved in response to changing political, social, and economic conditions, often the results of governmental interventions that may not have been conducive to efficiency or equity.

The evidence dispels some popular misconceptions about land rights systems in Sub-Saharan Africa. There is increasing individualization of ownership, and in many areas possession has always been individual. Even in areas where communal ownership has been imposed, cultivation and possession remain with individual households and an increasing range of rights to land are appropriated by the individual household. Existing and indigenous systems are not inherently equitable. Land sales and mortgaging by individuals are observed frequently in many areas where such transactions are not recognized under the formal legal system.

The lesson from other parts of the world is that efficiency ultimately requires formal recognition of individual land rights. That stage has not been reached yet in many parts of Sub-Saharan Africa, but in many other parts the justification for a change in land rights arrangements already exists. The practical problem in such cases is the careful analysis of benefits and costs, including equity considerations.

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The relevance for developing countries of recent developments in macroeconomic theory

W. Max Corden

This article reviews the recent literature of macroeconomic theory in industrial countries and considers its relevance for developing countries. Much of the paper is concerned with the "rational expectations revolution" and its possible use for studying macroeconomic policies in developing countries.

It would be helpful to specify some standard model for industrial countries, or perhaps some textbook written for them, and then relate it to a standard model for developing countries or one of them in particular. That would bring out differences between the models and show how the industrial-country model (or the textbook) needs adjusting to suit a particular developing country. But that approach is impossible, because macroeconomic theory for the industrial countries has not been consolidated since the destruction of the Keynesian consensus, and the characteristics and experiences of the developing countries are so varied. Every idea in the recent literature on industrial countries can be shown to have some relevance for some developing country, and the literature on developing countries is so extensive that no important issue has been completely neglected. For this reason every generalization made here must be qualified.

The central message of Keynesian economics is that demand management through monetary and fiscal policies can successfully stabilize output and employment and possibly raise the average level of employment over a longer period. The recent theoretical literature on Keynesianism and Rational Expectations

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industrial countries seeks to explain how Keynesian policies can work when some allowance is made for rational behavior and expectations of private agents. This literature has three parts. The first part assumes that market-clearing wages and prices are continuously established, and the question is then whether Keynesian effects can still be generated through policy surprises. The second part seeks to explain the existence of nominal rigidities, especially wage rigidities. The third part—the most interesting for the present discussion—is concerned with the role of policy surprises and the scope for policy activism, given some rigidities.

The Market-Clearing Approach

Suppose that there were instantaneous market clearing; any increase in nominal demand in a particular market would thus lead to a rise in the price. Surprise shocks in nominal demand—for example, an increase in the money supply—would still have real effects if their implications were initially misunderstood. This is an instance of “incomplete information.” For example, if a growth in nominal demand leads to a rise in prices and nominal wages, without necessarily any change in real wages, but it is misunderstood as either a rise in real wages (which would lead to an increase in labor supply) or a rise in real profitability (which would lead to an expansion by firms, so boosting labor demand), then nominal demand policies would have real effects.

This type of story (the Lucas supply function) has been given prominence in the literature on industrial countries. The rational expectations theorists argue that it is not possible to surprise private agents consistently. If the government is following some kind of policy rule, that rule will be discovered in due course. On average, changes in nominal demand will come to be expected, so will no longer be misunderstood when they happen.

It does seem implausible that firms or workers misunderstand a change in demand. They may not understand why it happens and may have failed to anticipate it, but with instantaneous price and wage flexibility it is not really necessary to anticipate events. If one believes that prices and wages are very flexible in response to market conditions, one should not expect nominal demand policies to cause changes in real output and employment, even when the policies are expected. The assumption of instantaneous market clearing is patently unrealistic, so that the whole discussion becomes interesting only when it introduces some rigidities in prices and wages or at least significant lags in their adjustment to changing conditions.
Explaining Nominal Rigidities

An extensive literature seeks to explain nominal rigidities, especially wage rigidity, as part of an efficient maximizing process. It is notable that nominal wages are largely rigid downward, and also somewhat sluggish upward, even where (as in the United States) trade unions are relatively weak. This is partly because explicit contracts with unions tend to be longer-term in the United States than in other industrial countries. The literature also tries to explain wage rigidities in terms of negotiation costs, including the costs and delays involved in the process of reaching agreed positions (the “logic of collective action”). There is also an implicit contract literature (see Azariadis and Stiglitz 1983). It seeks to explain wage rigidity by the willingness of employers to accept the risks for their profits of fluctuations in demand, employees being risk-averse and unable to ensure adequately against income fluctuations.

Most explanations of wage rigidities seem to be explanations of real rather than nominal rigidities, and only the difficulties of indexation (which, surely, are not so great) can explain why rigidities that are intended to be real turn out to be nominal. If people learn from the experience of inflation, they would make increased use of indexed contracts—as has happened in several developing countries.

Policy Surprises and Nominal Rigidities

The most important issues in recent literature are (a) the interaction among nominal rigidities, especially wage rigidity; and (b) whether policy changes are expected or not. By introducing some nominal rigidities into a rational expectations framework, results that are essentially Keynesian can be obtained (Fischer 1977, 1980). The literature assumes that nominal wages are fixed on some rational basis—taking into account expectations about market conditions, prices, and so on—but are then not changed for some time. Contracts may overlap, so that the general wage level gradually responds to changing expectations, even though particular wage rates stay fixed for a time.

Given the assumption of short-term nominal rigidities, demand policies would have no real effects if (a) demand policies are determined at the same time as prices and wages are fixed; (b) the principles of those policies are known to private agents; (c) the policies are based on information that is available to private agents as much as to the government; and (d) private agents interpret the information correctly. The absence of assumptions b and c means that there is “asymmetric information.”

Assumption d is usually implicit in the rational expectations litera-
ture, though it is hardly discussed. Assumptions b and c are the critical rational expectations assumptions; for demand policies to be effective, say rational expectations proponents, at least one of these two assumptions must not apply. There must be some element of surprise.

These rather extreme conclusions are changed radically when assumption a is removed. It is quite possible that wages are rigid longer than demand policy is. The government may have more flexibility than, say, the labor market. There is (my term) "asymmetric flexibility." In that case Keynesian demand policies may be effective even though there is no information asymmetry. The government can adjust its policies in the light of new information, but even though the information is also available to and absorbed by private agents (so that expectations are rational) wages are not adjusted or are adjusted less. The policy regime, which includes the pattern of policy reactions to new information obtained by the government, is known by the private agents from the start and is adhered to by the authorities. The "surprise" is embodied in the new information, rather than in the policy.

The general conclusion is that the more government demand policies can surprise private agents (essentially by being unsystematic) or the longer the periods of wage rigidity relative to those of policy rigidity, the more likely is it that Keynesian demand policies will have some real effects. But if real wage outcomes turn out to be consistently different from those intended by the private agents then presumably private agents will learn and adapt their behavior accordingly. If it is usual for significant new information about labor market conditions and demand policies to emerge after wage contracts have been made, then presumably the contract periods will be shortened.

**Are There Keynesian Effects in Developing Countries?**

How relevant is all of this for developing countries? Many macroeconomic models that have been constructed specifically for developing countries have Keynesian elements: there is some degree of wage and price rigidity, or at least some sluggishness of adjustment. Hence it is certainly a widespread view that Keynesian effects are relevant for developing countries. Notable examples are the paper by Krugman and Taylor (1978), which deals with the possible contractionary effects of devaluation, and the paper by Khan and Knight (1981), which is concerned with stabilization policy when the exchange rate is fixed.

Some people think that prices and nominal wages are more flexible in many developing countries than in industrial countries, mainly because trade unions are more powerful in the latter (though this does not mean that developing countries are free of structural unemployment or of supply rigidities of various kinds). This view can be tied to the argument that significant Keynesian effects cannot be obtained...
from unexpected nominal demand policies purely because their effects are misunderstood by private agents. In such a framework nominal demand policies would have no real effects irrespective of whether they were expected or not. Only when there are significant short-term \textit{nominal} rigidities are Keynesian policies and analysis relevant.

Developing countries usually want to determine the effectiveness of devaluing the exchange rate. As is well known, the reaction of wages to a devaluation is crucial. Some rigidity in nominal wages or in the prices of nontradables is needed if a nominal devaluation is to lead to a real devaluation. If nominal wages are flexible downward, adjusting the exchange rate would be unnecessary, while if real wages are rigid, lowering the nominal exchange rate would have no real effects (aside from any real balance effect).

This is the main form in which the issue of Keynesian effectiveness arises in small open economies. In such economies Keynesian policy essentially consists of using the exchange rate as a policy tool. If a developing country finds that it has unemployment in its tradables sector and if its government thinks that the Keynesian conditions for policy effectiveness apply, it would devalue the exchange rate and expand the money supply. Employment would then increase, even while the current account is kept at its original level.

Keynesian assumptions may also apply to some nontradables, notably construction. It would then be possible to increase employment by expanding nominal demand, leading possibly to lower real wages through the exchange rate depreciation that demand expansion brings about. Monetary and fiscal policies could then be used to stabilize domestic demand in the face of fluctuating private investment.

The crucial issues are empirical, and much research has been done. Some developing countries show evidence of having enough rigidity to allow devaluations or (unexpected) monetary acceleration to have short-term effects. But usually the effects are eroded after a few years. This suggests that there might be a short-term nonvertical Phillips curve, perhaps with adaptive expectations, which gradually shifts in an unfavorable direction as nominal demand expands. That in turn raises the question of whether devaluation, if it is to be effective, must be unexpected at the time that nominal wages and prices are initially fixed.

If there is some nominal rigidity that lasts for a significant time (as in the United States), then all the issues discussed in the literature on industrial countries become potentially relevant. Yet that begs the question of why anything should ever be rigid in nominal, rather than real, terms. Long-term labor contracts like those in the United States are not common in developing countries. The strength of labor unions varies greatly from one developing country to another, but in general they are strong only in the urban sectors.

W. Max Corden
In Keynes's *General Theory* expectations were exogenous (animal spirits) and influenced the inducement to invest. They played no part in determining nominal wages. The crucial role of expectations—and, above all, of expectations that proved to be consistently wrong—was seen by Friedman and Phelps when they sought the logic of the nonvertical Phillips curve. The expectations-augmented Phillips curve was derived from backward-looking expectations, with learning formalized by the concept of adaptive expectations. This approach led to the conclusion that demand management could maintain unemployment below the natural rate, but only at the cost of accelerating inflation.

"Rational expectations" was the next logical step. Expectations would surely be forward looking. Mistakes would not be made consistently. Private agents would make use of all available information, not just past inflation, to develop their models of the economy. If they find these models to be consistently wrong, they will gradually discard them until they develop the right model.

This approach raises several questions. How does one know what is the right model? It has often been remarked that even respectable economists have many models, and the faith that "truth will prevail" may seem a little naive. Does history really teach that mistakes are not repeated? For many people (including politicians in power) the chance to learn from one's own mistakes is limited because decisions on particular matters are infrequent. In any case, the central theme of rational expectations theory is that individuals do not make systematic mistakes in forecasting the future. This limits the ability of governments to steer the economy by tricking private agents.

Clearly, the simplest versions of rational expectations theory require considerable qualification. In particular, how far private agents are able to assimilate information is crucial. Presumably there is some kind of production function where information is the input and understanding the output. The mental model of the economy into which the information is fed is also crucial. In all these respects, private agents can differ from one another. Information may be available to some and not to others, perhaps because the costs of obtaining the information vary. There may be economies of scale in obtaining information. Not all agents (like not all economists) will have the same model of the economy. If agents have different abilities to obtain or process information, some being more "rational" than others, the outcome may or may not be dominated by the more rational agents (Haltiwanger and Waldman 1985).

One should not be surprised that these and other problems have not been ignored in the literature, so that the early, rather naive versions of rational expectations theory would no longer be widely
accepted even by the enthusiasts. For example, Barro and Gordon (1983) explore in detail the relationship between the credibility of government monetary policy rules and the expectations of private agents. That relationship determines the real effects of monetary policy shocks or changes. A lot depends on how private agents interpret government policies.

The literature puts great emphasis on the effects of “systematic” (and hence, in principle, predictable) government policies. The two policies usually referred to are the old-fashioned Keynesian ones of fine-tuning demand to offset private sector instabilities and the Friedman policy of steady monetary growth. Because of the difficulties of measuring money and the unpredictability of velocity, the Friedman prescription can be recast as a constant rate of nominal growth in gross national product.

Are Policies Systematic in Developing Countries?

In trying to apply these notions to developing countries, it is natural to ask how far their policies can be described as systematic. Some developing countries have stable governments and stable economic philosophies; in some cases, such as India, they are even more stable than those of some industrial countries. In other developing countries, it would be hard to describe policies as systematic in any sense. (Yet, if one stretches the term a bit, even apparently chaotic policies or nonpolicies could be described as systematic.) Taking all the inevitable variety into account, the weight given in the macroeconomic literature to private agents’ reactions to systematic government policies seems out of proportion in the context of developing countries—and possibly of many industrial ones as well.

Is Government Benign?

Underlying Keynesian thinking was the idea of government as a benign, well-informed optimizer of the national interest, manipulating the various rigidities in the private sector and offsetting its destabilizing activities. In an open economy the last point can be extended to allow for destabilizing effects coming from abroad, perhaps originated by the policies of foreign governments rather than by the private sector.

In a broad sense rational expectations theory can be regarded as operating within the same framework as Keynesian theory, even though its main contribution has been to highlight the doubtful as-
sumptions that crude Keynesianism requires for its validity. The implicit assumption is still an optimizing government that can pursue whatever policies are deemed desirable. Both approaches employ the concept of “the” government or “the” central bank. The government acts on the private sector, and the private sector reacts through the market place, that is, through price and wage reactions. The whole edifice of rational expectations theory is concerned with this two-way relationship, and above all with whether the government can “trick” the private sector into behavior that it would not engage in if it had full information and made full use of that information. Neither Keynesian nor rational expectations theory considers the motives of governments, or whether private agents can influence the behavior of governments directly (through lobbying, for example) rather than through the market.

**Political Economy**

The vital macroeconomic issues for the developing countries, and possibly for some industrial ones as well, seem to be outside the scope of rational expectations theory. What are the macroeconomic objectives of different governments at different times? How do pressure groups influence them? How do finance ministers and central banks balance one pressure against another?

There is a “political market” in which pressure groups operate. Government policies certainly affect private behavior, but the private sector also affects the government. And policy is likely to be influenced by the interests of politicians as a class, and of various groups of government employees. Public choice theory might shed light on some of these issues, though its formal development appears to be relevant only for democracies.

One theme in the political economy literature is that politicians are driven by short-term, electoral considerations (Nordhaus 1975). Given that a demand expansion may (in a Keynesian model) boost employment before it raises inflation, the politicians’ high discount of the future may lead to more inflation than the national welfare would favor. In the context of recent developments in developing countries, if Keynesian effects are not significant, the short-term benefit to politicians may be higher public spending financed by foreign borrowing, while the longer-term cost may be not just inflation but also an increased burden of foreign debt. One question is whether governments’ discount rates are consistently lower when governments are more stable, and thus feel themselves to be more securely in power. To what extent do the more insecure governments buy support through current account deficits?
Rational expectations theorists have assiduously explored many questions about the private sector. Surprisingly, they have not done the same with governments. Is all available information used by government decisionmakers? What are the costs of acquiring information, and when will it pay not to acquire all possible information? What is the model into which the public decisionmakers feed their information? If there are wrong and right models, do the right models eventually prevail because politicians or decisionmakers with the right ones defeat those with wrong ones? (In other words, does truth prevail?) Could outcomes be improved if public decisionmakers obtained more information and more education in the right models? Perhaps this is where the policy advice of the International Monetary Fund and the World Bank fits in.

This discussion suggests an empirical program that could usefully be applied to the public sector. The program would include considering a government’s ability to assimilate information even when the model is given. Do policy shifts reflect changing information, changing ability to absorb information, changing models, or changing objectives? If the objectives have changed, is it because pressure groups or individuals have changed their objectives, or because the weighting given to different pressure groups or individuals in power has changed, with each having a different but constant objective? These questions need to be considered in any assessment of macroeconomic policies for developing countries.

An important feature of fiscal theory in the industrial countries is the rediscovery of the neo-Ricardian equivalence theorem. In the case of a bond-financed government deficit, it used to be argued that the extra bonds represent net wealth in the hands of the public. The public, it was said, ignores the future tax obligations incurred when the government borrows. The new idea is that rational taxpayers will take this into account. The Ricardian theorem in its extreme form is that private savings will increase to provide for future tax obligations: a bond-financed deficit does not increase net wealth, because the increased holding of bonds in private hands is offset by the wealth-reducing effect of the higher expected taxes. Thus a budget deficit will not increase total expenditure; it will only shift the pattern of expenditure. If the deficit resulted from a rise in government spending, the pattern of spending will shift from the private sector to the public. Extra public dissaving will be matched by extra private saving.

Is this application of rational expectations theory to fiscal policy relevant for developing countries, where deficits tend to be money-
financed? If the increase in the money supply is not expected to increase inflation or the current account deficit, but is just expected to boost output along Keynesian lines, there should not be any neo-Ricardian effect. If inflation is expected, the expectation that the real value of money holdings would be eroded (the inflation tax) would lead to higher savings. But the most relevant case for some developing countries may be essentially non-Keynesian, where a fixed exchange rate prevents or moderates inflation. Much or all of the budget deficit will then be reflected in a current account deficit.

In that case the government does not pay any interest to the central bank or to local citizens; either foreign exchange reserves must be reduced (so forgoing interest earnings) or money must be borrowed abroad. One way or another, interest obligations and obligations eventually to repay foreign loans or rebuild the reserves are incurred. The perceived net wealth of taxpayers who foresee these consequences will decline; if they are rational, they will increase their savings—and hence produce an offsetting reduction in the current account deficit. If these reactions were instantaneous and completely offsetting—both very unlikely—a current account deficit would not result at all.

Might there be any tendency to such offsetting savings behavior in developing countries? It is indeed possible that private households and firms may foresee that government borrowing abroad could create difficulties later. They may come to expect foreign pressures to raise taxes or cut public spending, leading to social disruption—and they might then wish to take precautions. But such precautions would not necessarily consist of building up financial assets denominated in domestic currency. They might wish to build up stocks of goods, or gold, or—most likely—assets denominated in foreign currency. The motive might be not to accumulate financial assets to finance future tax bills, but rather to prepare to evade future taxes by moving funds out of the domestic jurisdiction.

Properly adjusted and broadened, the Ricardian theorem could have some relevance for developing countries. There is plenty of experience available for testing it, some of which suggests that foresight was not always shown by the private sector, possibly because the same analyses that led governments to think that certain policies would have favorable consequences led the private sector to the same conclusion.

This section can be concluded with a general point: the fiscal policies of developing countries may create various expectations at home and abroad, which can have early effects on private savings, private investment, and the desired portfolio balance between domestic- and foreign-currency-denominated financial assets, and
hence on the exchange rate (in a floating rate system) or the overall balance of payments (in a fixed rate system). These expectational effects must be taken into account in any analysis of current fiscal policy.

The tendency for real wages to be rigid downward, at least in the short run, has been noted since 1973 in European and other industrial countries outside the United States. A large literature has been built around the assumption of real wage rigidity in the industrial countries.

Explaining the Rigidity

It is not difficult to explain some involuntary unemployment and real wage rigidity by the "efficiency wage" hypothesis (Yellen 1984). In a static model it can also be explained by trade unions' exercising monopoly power at the expense of the unemployed. It is a little harder to explain rigidity in a dynamic model—why, for example, the real wage demanded by unions does not fall sufficiently in response to shocks, such as the oil price shock. There may be problems of information or of understanding (using the wrong model or being unable to feed information efficiently into the right model). The logic of collective (in)action may also dictate slow adjustment. And if the negative shock is believed to be temporary, it might justify maintaining real wages when it is costly to negotiate and explain required real wage cuts to trade union members.

Potentially, rational expectations theory is fully applicable to this issue, even though it is no longer concerned with explaining the determination of nominal wages and prices, and hence with analyzing the Keynesian question of the efficacy of managing nominal demand. The theory tries to explain the real wage expectations on which wage demands are based. What is the information base of these expectations, what are the implicit models of the economy used, and so on?

Raising Employment with Real Wage Rigidity

Various policies have been proposed to get around the rigidity of real wages and thereby boost employment. All are applicable to developing countries.

One approach rests on the assumption that the rigidity is posttax, not pretax, and that it is not only downward but upward. In that model, the appropriate policy would be to reduce income tax or indirect taxes; this would lead to a decline in pretax real wages (to maintain posttax wages) and hence to higher employment (Corden

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The hope is that the wider tax base resulting from the extra employment will prevent a fall in government revenue. Another possible solution is short-term borrowing from abroad, the borrowed funds allowing taxes to be kept low and thus posttax wages high; the debts are repaid when productivity has increased and the rigid posttax real wage can be sustained without borrowing. Such borrowing may also allow public sector real wages to be higher than they would otherwise be.

A third approach is to tax those sectors of the economy in which real incomes are not rigid, using the revenue to subsidize the sectors with real wage rigidity. An indirect and rather inefficient way of doing this would be through particular forms of trade protection, as suggested in the implicit model of the Cambridge (England) protectionists.

**Real Wage Rigidity and Developing Countries**

The assumption of real wage rigidity was implicit (and occasionally explicit) in the Latin American structuralist models. Their themes may have been revived in the more recent literature dealing with European rigidities. Furthermore, real wage rigidity in one sector of a two-sector economy is central to the Harris-Todaro model, which seeks to explain a form of structural unemployment in developing countries (though this model has not been used for analyzing macroeconomic policy).

For developing countries the idea of rigid real wages may have to be extended to allow for at least two types of wage rigidity—in the public sector and the urban private sector. Other real rigidities—notably for particular categories of government expenditure and also for some rural incomes—might be added. The various real incomes in the country (presumably posttax and allowing for real incomes derived from certain forms of government expenditure) may have to be categorized according to how downwardly rigid they are. Presumably government would have two policy instruments: first, fiscal policy, which would include not only the size of the budget deficit (leading to a current account deficit and hence foreign borrowing) but also the mix of taxes and government spending and, second, incomes policy.

**Supply Side Models and Sectoral Income Effects**

The literature also contains models that do not assume that the real wage is rigid downward, but where all wage adjustments are made explicitly in real terms. Such models allow for rational behavior and seem relevant for many countries. They allow negative supply shocks to produce both an increase in unemployment and some fall in real wages as part of an optimizing response by trade unions. In such cases the real wage is unresponsive to nominal demand shocks, but it
has some flexibility (though not enough to maintain employment) in response to real shocks. Models of this kind are expounded in Bruno and Sachs (1985), where further reference are also given.\(^6\)

Some shocks, whether nominal or real in origin, may be “favorable,” causing real wages to rise; the original shock may be temporary, yet real wages may not fall when it is reversed. This is surely a common feature of industrial and developing countries. Yet it is hard to derive such reactions from a model of rational behavior. If the favorable shock was known to be temporary to start with, so that its reversal is expected, rational behavior would not lead to a rise in real wages (or, at least, not one so great that it later needed reversing), unless the future were heavily discounted. If the favorable shock was initially expected to be permanent, rational behavior should later lead the trade unions to lower their real wage targets when new information about the reversal of the shock is revealed.

One can imagine a body of real macroeconomic theory that is very different from the macroeconomics which is discussed now in textbooks and which focuses on real rigidities and sectoral income effects in developing countries. A literature of this sort is forming, though it is not yet consolidated: see Prachowny (1984), Bruno and Sachs (1985), Corden (1985), and various papers by Scandinavian authors.\(^7\)

The “booming sector and Dutch Disease” literature comes into this category. It has been developed for both industrial and developing countries and is concerned chiefly with one issue: the sectoral real income effects, as well as overall macroeconomic consequences, of a sectoral real income boom (Corden 1984). In effect, the Dutch Disease models apply various aspects of macroeconomics to a particular problem, but their special feature is the emphasis they place on real income and output effects on different sectors.

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Macroeconomic policy and events can be seen as the outcome of a game played between two or more large actors. Recent theorizing, mostly in Europe, might be relevant for some developing countries.

In the simplest model (originating in Scandinavia) the two actors are the government and the trade unions. The first has fiscal policy as its instrument of policy; the second has the real pretax wage. The outcome yields the current account of the balance of payments and the level of employment (Calmfors 1982). Alternatively, the government’s instrument is monetary policy (or the exchange rate), and the outcome yields the employment and price levels (Gylfason and Lindbeck 1986). There are several variants of such models, including those in which one party is committed in advance to a policy, or to a reaction function, while the other one then optimizes. Such models could be extended to more than two actors. The corporate sector

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could be added, and the government could have both monetary and fiscal policy as instruments. Various game theory issues arise, including the crucial one of credibility of threats.

For many industrial economies outside the United States, models of this kind seem more realistic than many of the contributions of rational expectations theorists. The models can either assume that each party has full information, or that there is an asymmetry of information—the withholding of information and the surprising of the other parties being part of the game.

The main weakness of the game theory approach is that governments are not really independent of the private actors. Groups further their interests not just through their wage (or other income) demands in the market place, but also by directly influencing government policies. Although in some developing countries the government controls the unions, in others (as in many industrial countries as well) the unions significantly influence the government.

The applicability of this new body of theory to developing countries depends on two considerations. First, if interest groups are not well organized, the model is inappropriate. Second, interest groups exercise their power directly on governments, through the political process, rather than by adjusting their nominal wages or product prices in response to varying government policies. Both types of interactions have to be taken into account.

**Conclusion**

The purpose of this article has not been to expound macroeconomic theory for developing countries. Instead it has been to assess the significance of various recent changes in theory (and also possible further changes) that are not yet fully incorporated in the standard development theory and to determine whether these changes can be of use in studying the macroeconomic experiences of developing countries. The main conclusions can be summarized as follows:

1. A crucial question concerns the extent to which there are nominal rigidities in developing countries, and especially—a familiar issue—how long it is that nominal devaluations have real effects.
2. The rational expectations approach raises interesting issues about the reaction of private agents to government behavior. The extent to which private behavior in developing countries suggests evidence of “rationality” in response to policy changes needs to be considered.
3. It is relevant to ask to what extent policies in various developing countries are systematic or can ever be so.
4. The political dimensions of macroeconomic policies need to be investigated to explain the effects that pressure groups have on government policies. Orthodox theory studies the effects of the govern-
ment on the private sector; it is also necessary to examine the effects, through the political market, of the private sector (as well as of government employees and politicians) on government policy.

5. The expectations of governments need to be analyzed. Are they rational? That is, what information and models do policymakers use, and what is their ability to process information? The article suggests the need for an empirical program, applying the insights of the rational expectations revolution to the public sector.

6. The neo-Ricardian theorem may have some relevance for developing countries, particularly because it suggests that official borrowing abroad could lead to offsetting changes in private savings. More broadly, fiscal policies, notably the expectations of the difficulties that deficits might cause, are likely to provoke reactions by the private sector. Expectations must be taken into account in analyzing current fiscal policies.

7. Models involving the rigidity of posttax real wages, or at least some sluggishness in real wages, are relevant for many developing countries. The same is true of various solutions that have been explored for maintaining or increasing employment when real wages are rigid. These models may need to be extended to allow for several sectors, and there is scope for a theory that focuses on real rigidities and sectoral income effects.

8. Game theory models may be useful for analyzing macroeconomic behavior in some developing countries, but if interest groups are not well organized such models are not really relevant. Interaction through the political process may be more important than through the market place.

This article reviews recent developments in macroeconomic theory and considers their relevance for developing countries. Particular emphasis is given to the rational expectations revolution. The article asks whether government policies are systematic and suggests the need to study the expectations on which governments base their decisions. Also discussed are the neo-Ricardian theorem, the implications of real wage rigidity and of supply side models with sectoral income effects, and recent models involving large group interaction.

The views expressed in this article do not necessarily represent the views of the International Monetary Fund. An earlier version of the article was prepared, at the suggestion of the late Carlos Diaz-Alejandro, as background for a World Bank project on macroeconomic policies, crises, and long-term growth in developing countries. A version of this paper will appear in a book of essays in his memory, to be published by Basil Blackwell, Oxford. The author is indebted to Carlos Diaz-Alejandro for stimulus and to valuable comments from John Cuddington and Mohsin Khan, as well as to Nuffield College, Oxford, Harvard University, and the Australian National University, where various versions of the article were written.

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1. This market-clearing approach is set out systematically in Barro (1984, chap. 18), and originated with Lucas, Barro, and Sargent and Wallace (see note 3 below).

2. The literature on the effectiveness of devaluation is generally concerned with "competitiveness," rather than real wages. A well-known paper is Connolly and Taylor (1976). See also Warr (1984) and Khan and Knight (1985), which both contain further references. Recent Southern Cone experience suggests that nominal exchange rate policy has real effects, that is, that there are nominal wage and price rigidities. Some empirical work on the real effects of monetary policy, mostly in Latin America, is available. There is an excellent summary and review in Khan and Knight (1985). See especially Hanson (1980) and the references given there, as well as Edwards (1983) and Leiderman (1984). It appears, at least from Hanson (1980), that there is a significant relation between output and unexpected inflation—though there must always be doubt as to what the "expected" inflation really is.

3. Classic articles on the applicability of the rational expectations idea to macroeconomics are Sargent and Wallace (1976) and various papers by Lucas, reprinted in Lucas (1981). For a clear statement of implications, see Lucas and Sargent (1979). Important contributions have also come from Barro, and his current views can be found in Barro (1984). The textbook by Sheffrin (1983) is particularly useful. It contains an extensive bibliography. An excellent reference is Fischer (1980), which contains both sympathetic and critical analyses of the rational expectations approach. See also Butler (1980); it is critical of "the new classical macroeconomics," at least as it was defined some years ago, and of claims about policy ineffectiveness that were made on the basis of this theory.

4. See Barro (1974), Barro (1984, p. 381), and references given in the latter.

5. As far as I know, no empirical work on the applicability of the neo-Ricardian hypothesis to developing countries has yet been published. Mohsin Khan has pointed out to me that the data suggests that the savings-CDP ratio is pretty stable even for countries with large shifts in public dissavings, and this could be a Ricardian equivalence effect. An interesting example is Chile in 1979–80, when a private financial deficit replaced the budget deficit, which had been practically eliminated.

6. See also Calmfors and Horn (1985) and Calmfors (1985) and references cited in these two papers, as well as various papers presented at a Stockholm conference on Trade Unions, Wage Formation, and Macroeconomic Stability published in the Scandinavian Journal of Economics 87, no. 2, 1985.

7. The connection with elements of Latin American structuralism and the neostucturalist model-building of Taylor is obvious. I have not attempted to survey or analyze this literature. The best-known reference is Taylor (1983).

8. I have not dealt with the sophisticated literature of non-market-clearing macroeconomic models. These assume price and wage rigidities (usually with no capital markets) and spell out the general equilibrium implications of various policies. The prices and wages are not endogenous, not even to the extent that they are in old-fashioned (non-expectations-augmented) Phillips curve models. Nothing is said about the explanations for the nominal rigidities. See Barro and Grossman (1976), Malinvaud (1977), and Muellbauer and Portes (1978); on these and the broader issues, including the causes of rigidities, see Cuddington, Johansson, and Lofgren (1984).

References


FOREIGN TRADE REGIMES
AND ECONOMIC GROWTH
IN DEVELOPING COUNTRIES

Deepak Lal
Sarith Rajapatirana

The static case for free trade is as simple as it is powerful. The removal of barriers to foreign trade expands the feasible set of consumption possibilities. It does so by providing, in effect, an indirect technology for transforming domestic resources into the goods and services that yield current and future utility for consumers. This static case does not involve any commitment to laissez-faire; the law of comparative advantage, as well as the gains from trade it underpins, applies to both socialist and capitalist economies. The dynamic version of the law incorporates investment in line with a country's changing comparative advantage, which minimizes the present value of the resource costs of its future demands. By widening the market, foreign trade also allows a country to exploit economies of scale. Furthermore, the competitive pressures exerted by imports prevent the emergence of welfare-reducing domestic monopolies and induce domestic producers to improve quality and reduce costs. To the extent the static gains are saved and invested efficiently, they will grow over time, while the introduction of new goods and (more important) new technology through foreign trade can affect an economy's rate of technical progress.

Apart from this last factor, the result of moving toward free trade is a higher level of per capita income, not a permanently faster rate of growth. This is one argument currently being used to denigrate the case for free trade as a means of enhancing growth (see Lucas 1985); it will be discussed in the last section of this paper. Longer-standing skepticism includes, first, the claim that the static gains are fairly small for even large reductions in tariffs and, second, that dirigiste
foreign trade regimes (which in 1945–65 encouraged import substitution and then, after 1965, export promotion) are likely to do more to boost a country’s growth rate.

This article surveys empirical studies that seek to demonstrate the limited static gains from freer trade and then reviews studies of the dynamic effects of growth of exports on that of per capita income. The following section summarizes the results of comparative studies of developing countries undertaken in the 1960s and early 1970s, which show fairly conclusively that “outward orientation” seems to be positively associated with faster growth and greater equity. The article then examines whether the conclusions of these studies hold for the more volatile conditions since then. It considers the various arguments that cast trade as an “engine of growth.” The final section introduces certain insights of the classical writers—in particular Adam Smith—which have reemerged in the neo-Austrian, as well as the more recent neoclassical “new political economy” schools, which might explain the stylized facts about the links between trade and growth. These emphasize the importance of the nonquantifiable aspects of a free trade regime in creating (in an irreducibly uncertain world) an economic framework that encourages entrepreneurship, productivity, and thrift. We argue that free trade is thus the handmaiden of growth, as it indirectly constrains the state from going beyond the bounds of providing those public goods essential for development.

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_The Static Gains from Trade_

Early studies of the costs of protection measured the static gains from trade in terms of the familiar welfare triangles associated with complete or partial trade liberalization (as in the case of customs unions). Harberger (1959) estimated that the cost of protection in Chile amounted to “no more than 2½ percent of the national income” (p. 135). Scitovsky (1958) estimated the gains to the European Community from increased specialization at “less than one-twentieth of one percent of the gross social product of the countries involved” (p. 67). Johnson (1958) estimated the gain to Britain from the formation of a free trade area as at most 1 percent of national income.

Recently, several models have been developed to examine the general equilibrium effects of trade liberalization (AB in figure 1). These estimates are based on the standard Heckscher-Ohlin model with constant returns to scale. The gains are estimated as Hicksian-equivalent variations as percentages of gross domestic product (GDP) in a base period. The gains from trade liberalization appear to be small: Whalley (1984) estimates a global net gain of about 0.3 percent of world GDP in 1977, and the maximum for any region or country is 0.5
percent of GDP (see Srinivasan 1986a, 1986b). Moreover, in Whalley’s model, with a move to world free trade, the developing countries lose 4 percent of their GDP.

As Srinivasan (1986a) has argued, however, the results of these models are not credible, partly because of how they manipulate data to make an internally consistent equilibrium set (when the data themselves come from nonequilibrium situations) and partly because of how they specify some crucial elasticity parameters. In particular, they all make use of estimated trade elasticities (see Stern and others 1976), which have a well-known bias to underestimation (see Orcutt 1950, Kemp 1962, Kakwani 1972). Most of these models also do not take account of scale economies and imperfect competition. An exception is a model for Canada by Harris (1983), which shows that a multilateral reduction of all tariffs yields welfare gains of more than 5 percent of GDP.

Furthermore, most of these models do not take account of the “rent seeking” and “directly unproductive” activities triggered by protectionism (see Tullock 1967, Krueger 1974, Bhagwati 1980). In the case of rent seeking, the deadweight loss associated with, for instance, a tariff, is not merely the conventional net change in the consumer and producer surplus triangles, but also the spending by lobbies for and against the tariff and by those who aim to capture the rent for themselves. Thus in figure 1 the lobbying costs shift the production possibility (PP) curve inward, with an associated welfare cost of protection CB. If there is a struggle over the rents associated with the tariff, the welfare costs rise to DB, as the PP curve shifts further inward (see Srinivasan 1986b). One study by Grais and others (1984) has attempted to estimate the costs.

Figure 1

Note: PP is the production possibility frontier. F is the free trade output when world prices are given by ff. With a tariff and no lobbying or rent seeking, the production point is P with the domestic price ratio being given by dd and the welfare cost by AB. With lobbying for the tariff, the production possibility curve shifts to PP'. The production point to P*, and the welfare loss is CB. To avoid various “immiserizing paradoxes” (which depend on the relative slopes of the Rybczynski line between P and P*, and the world price ratio), which could imply a welfare gain from the lobbying equilibrium at F as compared with P, it is better to decompose the welfare loss CB into the loss due to the tariff CE (this is the usual triangle estimate) and that due to lobbying EB (see Bhagwati 1980). With rent seeking, the production possibility curve shifts inward to P*P", the production point to P", and the welfare loss at world prices is DB.

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of rent seeking (but not lobbying) associated with quotas in Turkey. It found that if tariffs were removed but quotas maintained, there was little effect on real GDP; if quotas were also eliminated, real GDP rose between 5 and 10 percent.

So far we have excluded the deadweight losses of domestic monopoly and X-inefficiency associated with protection (see Leibenstein 1966, Corden 1974, Krueger 1984). Thus "a reduction in tariff levels might be expected to result in a downward shift in industry supply curves. The welfare costs of protection would then consist of the conventional production cost, plus an inefficiency cost and possibly a monopoly cost" (Krueger 1984, p. 544). The only attempt to measure all these costs is by Bergsman (1974). He found that the costs of protection as a proportion of GNP, consisting of the conventional allocative inefficiency costs \( A \), the X-inefficiency combined with monopoly costs \( X \), and the total costs \( T = X + A \) were as follows for four developing countries:

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>X</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>0.3</td>
<td>6.8</td>
<td>7.1</td>
</tr>
<tr>
<td>Mexico</td>
<td>0.3</td>
<td>2.2</td>
<td>2.5</td>
</tr>
<tr>
<td>Pakistan</td>
<td>0.5</td>
<td>5.4</td>
<td>5.9</td>
</tr>
<tr>
<td>Philippines</td>
<td>1.0</td>
<td>2.6</td>
<td>3.6</td>
</tr>
</tbody>
</table>

The static welfare gains from trade liberalization could therefore be quite substantial. But these would still affect only the level of income, not its rate of growth. They do not explain why the growth rates of free-trading countries should be higher on a sustainable basis, as seems to have been the case.

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The links between trade and growth have many statistical studies, which are summarized in tables 1 and 2. Michalopoulos and Jay (1973) estimated an aggregate neoclassical production function for thirty-nine countries. Exports were found to be highly significant, and GNP growth was significantly correlated to the growth rate of exports.

By studying the change in the proportion of exports to GNP relative to the rate of GNP growth in forty-one countries during 1950–73, Michaely (1977) found a significant relationship at the 1 percent level for the Spearman rank correlation. The study attempted to avoid autocorrelation between exports and GNP by using the change in the share of exports in GNP to represent the growth of exports which was then regressed against the rate of change of per capita income (Michaely 1977, p. 50).

In her study for the National Bureau of Economic Research (NBER) on foreign trade regimes and economic development, Krueger (1978)
Table 1. *Estimated Spearman Rank Correlation Coefficients between Export Growth and Output Growth in Developing Countries*

<table>
<thead>
<tr>
<th>Author</th>
<th>Average annual change in export GNP ratio vs. average per capita GNP growth</th>
<th>Export growth vs. GNP growth</th>
<th>Incremental export GNP ratio vs. GNP growth</th>
<th>Increments in export GNP ratios vs. GNP growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michaely</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For 41 observations, 1950-73</td>
<td>0.380**</td>
<td>—</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For 23 middle-income countries, 1950-73</td>
<td>0.523**</td>
<td>—</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For 18 low-income countries, 1950-73</td>
<td>-0.04</td>
<td>—</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Balassa: for 11 semi-industrial countries, 1960-73</td>
<td>—</td>
<td>0.888**</td>
<td>0.813**</td>
<td>0.776**</td>
</tr>
</tbody>
</table>

* indicates 1 percent level of significance.


regressed GNP growth for each of ten countries against the rate of export growth. She found a positive and significant relationship between the two. Similarly, Balassa (1978), by reestimating Michaely’s equations and incorporating the Michalopoulos-Jay factors, noted a robust relationship between exports and GNP growth for eleven countries. He recognized that it understated the effects of export growth. And Feder (1983) not only found a positive correlation between exports and GNP growth, but also provided evidence to support the hypothesis that export-oriented policies both led the economy to an optimal allocation of resources and generally enhanced productivity.  

All these studies confirm a statistical relationship between export and income growth. But at best this provides a stylized fact, not a theory. As in most statistical matters however, even this association is disputed—a reflection of the emerging “law” that all econometric evidence is equivocal. Thus Helliner (1986) in a study of low-income countries heavily weighted toward Sub-Saharan Africa, concluded that the results for 1960-80 “show no statistically significant link between the change in export share of GDP and growth. Indeed, the sign on this relationship is consistently negative” (p. 146). Similar results were also reported by Michaely (1977): “the positive association of the economy’s growth rate with the growth of the export share appears to be particularly strong among the more developed countries, and not to exist at all among the least developed... This seems to indicate that growth is affected by export performance only once countries achieve some minimum level of development” (p. 52).
Table 2. Estimated Relationship between Export Growth and Output Growth in Developing Countries

<table>
<thead>
<tr>
<th>Author</th>
<th>Dependent variable, a</th>
<th>Independent variables b</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>{\Delta Y_i} / {Y_i}</td>
<td>{\Delta K_d/Y_i}</td>
</tr>
<tr>
<td>Michalopoulous</td>
<td>—</td>
<td>0.25</td>
</tr>
<tr>
<td>Jay: for 39</td>
<td>(7.81)</td>
<td>(3.35)</td>
</tr>
<tr>
<td>observations, 1960-66</td>
<td>(9.62)</td>
<td>(2.33)</td>
</tr>
<tr>
<td>Balassa: for 10</td>
<td>—</td>
<td>0.18</td>
</tr>
<tr>
<td>observations, 1960-73</td>
<td>(3.23)</td>
<td>(2.42)</td>
</tr>
<tr>
<td>Feder: for 31</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>observations, 1964-73</td>
<td>(4.311)</td>
<td>(1.990)</td>
</tr>
<tr>
<td></td>
<td>—</td>
<td>0.178</td>
</tr>
<tr>
<td></td>
<td>(3.542)</td>
<td>(2.862)</td>
</tr>
<tr>
<td></td>
<td>—</td>
<td>0.124</td>
</tr>
<tr>
<td></td>
<td>(3.009)</td>
<td>(3.399)</td>
</tr>
<tr>
<td>Krueger: for 10</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>observations, 1950-70</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

Note: Numbers in parentheses are t values.

a. The dependent variable (\Delta Y_i/Y_i) is the GNP growth in Michalopoulous and Jay, Balassa, and Krueger. In the Feder study, it refers to GDP growth.

b. The independent variables are \Delta K_d/Y_i, domestically financed investment as a proportion of the GNP in the initial period; \Delta K_f/Y_i, foreign-financed investment as a proportion of GNP in the initial period; \Delta L/L_i, increase in population as a proportion of the population in the initial period; \Delta X/\Delta Y, incremental export-GNP ratio; \Delta X/X_i, increase in exports as a proportion of the exports in the initial period; Di, a dummy variable which takes the value of 1 during Phases 1 and 2 of the trade regimes; D_{2t}, a dummy variable which takes the value of 1 during Phases 3 and 4 of trade regimes; and t which is a time variable.

c. The export variables in Feder are (\Delta X/X) (X/Y) = (\Delta X/Y) and (\Delta X/X).

d. In Krueger’s study log refers to a pooled sample of ten countries in which log GNP is regressed on a time trend and log X, a dummy variable for the country’s Phases 1 and 2 trade regime (that is, D_{1t}), and another dummy variable for Phases 3 and 4 trade regime.


As most of the low-income countries in the sample used by Helliner (using data from the World Development Reports) can hardly be classified as having followed outward-oriented policies, the failure to find a link between exports and growth is not surprising. We would expect, however, that in the turbulent decade after the first oil shock of 1973, even among these dirigiste low-income countries, the relatively more outward-oriented would have had a better growth record. Using data from the World Development Report 1986, on GDP, labor force growth, and the growth of export and investment shares in GDP,
we estimated the following regression for eighteen low-income countries for which statistics were available:

\[
\text{GDP} = 2.251 + 0.225 \text{ Investment} - 0.963 \text{ Growth} + 0.152 \text{ Growth of labor share of GDP, 1973-84 1984 1973-84 1965-73}
\]

\[
(0.064) (0.786) (0.079)
\]

\[r^2 = 0.30; F = 3.2\]

The figures in brackets are standard errors. This equation shows that there was a positive and statistically significant association between income growth rates in the turbulent decade after the oil shock and the growth of exports in GDP in the preceding period (1965–73).

All the studies reviewed above use conventional statistical tests for establishing an association between exports and growth. Following classical statistical methodology, these correlations by themselves reveal nothing about causation. To make causal inferences, an underlying theoretical model is required, whose validity is then tested by standard econometric techniques. Recently, however, a new school of econometrics has sought to make causal statements purely on the basis of a particular statistical technique called vector auto regression (VAR) and of a Granger-Sims causality test, which seeks to establish whether over time a particular variable regularly precedes another. Jung and Marshall (1985) have applied the Granger causality test to data for thirty-seven developing countries in 1950–81 to determine whether exports "Granger-cause" growth, or vice versa. They find that only Costa Rica, Ecuador, Egypt, and Indonesia provide evidence in favor of export promotion; "more interestingly, many of the countries most famous for the miraculous growth rates that appeared to arise from export promotion policies (e.g. Korea, Taiwan, Brazil) provide no statistical support for the export promotion hypothesis" (p. 10). Darrat (1986) has also applied the Granger causality test to the time series for exports and growth between 1960 and 1982 for Hong Kong, Korea, Singapore, and Taiwan and finds that for the first three "neither exports cause economic growth nor economic growth causes exports." For Taiwan he finds that "economic growth unidirectionally causes exports" (p. 697).

Several points need to be made against this recent counterrevolution. First, even within the atheoretical Granger causality framework, the results showing that output growth causes export growth are not inconsistent with the export-growth link found by the more conventional studies. Consider this comment by Darrat: "The economic
growth that Taiwan enjoyed during the estimated period (1960–82) appears to be an internal process perhaps due to domestic technological advancement and enhanced accumulation of human capital (Jung and Marshall 1985). Given the country's limited market capacity, Taiwan's producers were probably compelled to turn to foreign markets for exports. It seems therefore, that economic growth (generated internally) has caused higher exports in Taiwan, contrary to the implication of the export-led growth hypothesis" (p. 697–98, emphasis added). However, it is obvious that, if a small country is developing efficiently in line with its comparative advantage, it will specialize and hence be “compelled to turn to foreign markets for exports” of goods that use its most abundant factor of production most intensively. The statistical establishment of this fact hardly disproves the validity of the outward-oriented development strategy; in fact, it supports it. Thus in the Jung and Marshall (1985) study if the cases in which output growth causes export growth are also included as supporting the outward orientation theory (as they should be on the above argument), the list of countries rises to fourteen and also includes Bolivia, Greece, Iran, Israel, Kenya, Korea, Pakistan, Peru, South Africa, and Thailand.

Second, it is clear from the test of precedence (which is what the Granger causality test amounts to) that the statistical counterrevolutionaries are testing for the growth-enhancing effects of a development strategy that biases incentives toward exports. They are not concerned with the neutral free trade equilibrium point—F in figure 1—whereas (as we argue below) most proponents of outward orientation do not favor this biased export-led growth. The same criticism applies to Fishlow's (1985) interpretation of the case for outward orientation as identical with that for export-led growth. To test this hypothesis, he rightly argues, “requires calculation of the relationship between aggregate performance and the extent to which the rate of growth of exports exceeds overall growth”; not surprisingly, he finds that “with such a specification, there is no statistically significant relationship” (p. 139). But again, it is clearly unwarranted to identify the case for outward orientation (or, more precisely, for neutral trade policies) with that for an export bias.

Third, the statistical studies based on Granger causality, which test for the precedence of one variable over another, do not in fact reveal anything about causation as the term is normally understood. Leamer (1985), in a review of the new econometric fashion that uses vector autoregressions alone for causal inferences, rightly notes that: “this concept should be called 'precedence'... We can all think of contexts in which precedence is suggestive of causation and also contexts in which it is not... It is altogether clear that precedence is not sufficient for causality. Weather forecasts regularly precede the weather,
but few of us take this as evidence that the forecasts ‘cause’ the weather” (pp. 259, 283).  

There is one other, more compelling reason why judgments based solely on statistical tests (both conventional and novel) of dynamic effects of trade regimes must remain inconclusive. Economics, as Hicks (1979) has put it, “is on the edge of science and of history” (p. 38). The historical aspects are particularly important for what he terms “sequential causality”—which is the relevant notion of causality for analyzing the dynamic effects of trade regimes. But in studying such dynamic historical processes, techniques of statistical inference may not be very useful, because “when we cannot accept that the observations along the time series available to us are independent or cannot by some device be divided into groups that can be treated as independent, we get into much deeper water. For we have then, in strict logic, no more than one observation, all of the separate items having to be taken together. We are left to use our judgment, making sense of what has happened as best we can, in the manner of the historian. Applied economics does then come back to history after all” (p. 126).  

This section looks at five comparative studies of particular developing countries’ trade regimes undertaken in the 1960s and 1970s (Little and others 1970, Balassa 1971, Donges 1976, Bhagwati 1978, and Krueger 1978). The studies provide fairly firm evidence that countries that adopted or moved toward an export-promoting (EP) strategy did much better in growth of per capita income and equity than those with an import-substituting (IS) strategy. These terms, EP and IS, have caused some confusion. The most common definition now is that a movement from the neutral free trade position is IS, and a movement toward it (that is, from P to F in figure 1) is EP. Thus the EP strategy does not imply any subsidization of exports beyond the level that restores equality between the effective exchange rates on imports and exports.  

For our purpose we need only note that the five comparative studies have established that IS regimes produce a misallocation of resources. Although there are analytical doubts about the use of domestic resource cost (DRC) measures as indicators of static efficiency in some of these studies, the general conclusion is reinforced by more appropriate indicators of allocative efficiency: the divergences between Little-Mirrlees (LM) shadow prices and market prices for several developing countries. More significantly, these studies (in particular the NBER study) showed that countries that reduced or removed the bias against exports had accelerated their growth rates of per capita incomes; those with an IS strategy did not. In this context it is important to distinguish between the degree and pattern of protection. It has been argued that the existence of some
highly protected industries in an economy whose trade regime on average shows little bias (for example, Korea) invalidates drawing any inferences from its experience in favor of neutral trade (see Wade 1985). Jagdish Bhagwati (1986) has given the correct response to this argument:

Thus, within the broad aggregates of an EP country case, there may well be activities that are being import-substituted (i.e., their \( EER_m \) exceeds the average \( EER_x \) [where \( EER_m \) is the effective exchange rate for imports, and \( EER_x \) is the effective exchange rate for exports]. Indeed there often are. But one should not jump to the erroneous conclusion that there is therefore no way to think of EP versus IS and that the distinction is an artificial one—any more than one would refuse to acknowledge that the Sahara is a desert, whereas Sri Lanka is not, simply because there are oases (p. 93).

Tables 3 and 4 summarize the divergence between market and LM shadow prices for traded goods in India and Korea. Though there are highly protected activities in both countries, even casual inspection shows that Korea’s trade regime is much more neutral than India’s, and the dispersion of its protection is lower.

Of the five studies, only the one from the NBER explicitly sought to quantify the possible effects of alternative trade regimes on savings rates, technical progress, and entrepreneurship—the dynamic factors that affect a country’s growth rate. The evidence (surveyed in Bhagwati 1978) on entrepreneurship, innovation, and technical change is inconclusive, though none of these factors is shown to benefit from IS regimes. On savings, Bhagwati concludes that the evidence does not support the view that restrictionist exchange control regimes “will or are likely to contribute to increased domestic savings, and/or to augmented capital formation. If anything, much of our evidence—at least on the domestic savings issue—suggests an opposite relationship” (p. 174).

The NBER study also emphasized the importance of appropriate macroeconomic and exchange rate policies to maintain a realistic real exchange rate. As Krueger (1978) put it:

It seems a fair conclusion that one of the policy mistakes of the two decades covered by the country studies was using devaluation to a new fixed exchange rate as an instrument designed to attain both domestic price stabilisation and a liberalised trade regime (p. 297).

### Exogenous Shocks in the 1970s and 1980s

The 1970s and 1980s produced two oil shocks, the worst recession since the Great Depression, and a huge switch in real interest rates (low or negative for most of the 1970s, unprecedentedly high in the 1980s). These shocks were common to all developing countries, yet the relative performance of the EP countries was far superior (see Lal and Wolf 1986).
Table 3. **Accounting Ratios for Traded Commodities in India, 1973**

<table>
<thead>
<tr>
<th>Sectoral code number</th>
<th>Commodity</th>
<th>Accounting ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>Electrical equipment</td>
<td>0.36</td>
</tr>
<tr>
<td>T2</td>
<td>Nonelectrical equipment</td>
<td>0.65</td>
</tr>
<tr>
<td>T3</td>
<td>Transport equipment</td>
<td>1.28</td>
</tr>
<tr>
<td>T4</td>
<td>Metal products</td>
<td>0.29</td>
</tr>
<tr>
<td>T5</td>
<td>Iron and steel</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>Pipes and tubes</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>Pig iron</td>
<td>1.00</td>
</tr>
<tr>
<td>T6</td>
<td>Cement</td>
<td>0.66</td>
</tr>
<tr>
<td>T7</td>
<td>Nonferrous metals</td>
<td>0.59</td>
</tr>
<tr>
<td>T8</td>
<td>Other minerals</td>
<td>0.61</td>
</tr>
<tr>
<td>T9</td>
<td>Rubber</td>
<td>0.60</td>
</tr>
<tr>
<td>T10</td>
<td>Leather</td>
<td>0.50</td>
</tr>
<tr>
<td>T11</td>
<td>Other leather products</td>
<td>0.50</td>
</tr>
<tr>
<td>T12</td>
<td>Leather footwear</td>
<td>0.81</td>
</tr>
<tr>
<td>T13</td>
<td>Animal husbandry</td>
<td>0.37</td>
</tr>
<tr>
<td>T14</td>
<td>Sugar</td>
<td>0.52</td>
</tr>
<tr>
<td>T15</td>
<td>Gur and khandsari</td>
<td>1.08</td>
</tr>
<tr>
<td>T16</td>
<td>Vegetable oils</td>
<td>1.14</td>
</tr>
<tr>
<td>T17</td>
<td>Vanaspati</td>
<td>0.65</td>
</tr>
<tr>
<td>T18</td>
<td>Starch</td>
<td>0.87</td>
</tr>
<tr>
<td>T19</td>
<td>Milk products</td>
<td>0.29</td>
</tr>
<tr>
<td>T20</td>
<td>Breweries and soft drinks</td>
<td>0.68</td>
</tr>
<tr>
<td>T21</td>
<td>Confectionery</td>
<td>0.60</td>
</tr>
<tr>
<td>T22</td>
<td>Cigarettes and cigars</td>
<td>0.39</td>
</tr>
<tr>
<td>T23</td>
<td>Other tobacco products</td>
<td>0.39</td>
</tr>
<tr>
<td>T24</td>
<td>Fruits and vegetables</td>
<td>0.32</td>
</tr>
<tr>
<td>T25</td>
<td>Cashew nut processing</td>
<td>0.27</td>
</tr>
<tr>
<td>T26</td>
<td>Cotton</td>
<td>0.51</td>
</tr>
<tr>
<td>T27</td>
<td>Cotton yarn</td>
<td>2.04</td>
</tr>
<tr>
<td>T28</td>
<td>Cotton textiles</td>
<td>0.46</td>
</tr>
<tr>
<td>T29</td>
<td>Jute</td>
<td>0.37</td>
</tr>
<tr>
<td>T30</td>
<td>Jute textiles</td>
<td>0.44</td>
</tr>
<tr>
<td>T31</td>
<td>Woollen yarn</td>
<td>0.60</td>
</tr>
<tr>
<td>T32</td>
<td>Woollen textiles</td>
<td>0.61</td>
</tr>
<tr>
<td>T33</td>
<td>Raw silk</td>
<td>0.71</td>
</tr>
<tr>
<td>T34</td>
<td>Silk textiles</td>
<td>0.50</td>
</tr>
<tr>
<td>T35</td>
<td>Man-made fiber (rayon)</td>
<td>0.13</td>
</tr>
<tr>
<td>T36</td>
<td>Artificial silk</td>
<td>0.43</td>
</tr>
<tr>
<td>T37</td>
<td>Other textiles</td>
<td>0.44</td>
</tr>
<tr>
<td>T38</td>
<td>Tobacco</td>
<td>0.43</td>
</tr>
<tr>
<td>T39</td>
<td>Fertilizers</td>
<td>1.00</td>
</tr>
<tr>
<td>T40</td>
<td>Ceramics and bricks</td>
<td>0.44</td>
</tr>
<tr>
<td>T41</td>
<td>Glass and glassware</td>
<td>0.72</td>
</tr>
<tr>
<td>T42</td>
<td>Wood products</td>
<td>0.97</td>
</tr>
<tr>
<td>T43</td>
<td>Timber</td>
<td>0.80</td>
</tr>
<tr>
<td>T44</td>
<td>Chinaware, pottery</td>
<td>0.50</td>
</tr>
<tr>
<td>T45</td>
<td>Wood, others</td>
<td>0.56</td>
</tr>
<tr>
<td>T46</td>
<td>Other forest products</td>
<td>0.27</td>
</tr>
<tr>
<td>T47</td>
<td>Petroleum products</td>
<td>0.65</td>
</tr>
<tr>
<td>T48</td>
<td>Rubber footwear</td>
<td>0.73</td>
</tr>
</tbody>
</table>

(Table continues on next page)
## Table 3 (continued)

<table>
<thead>
<tr>
<th>Sectoral code number</th>
<th>Commodity</th>
<th>Accounting ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>T49</td>
<td>Synthetic rubber</td>
<td>0.73</td>
</tr>
<tr>
<td>T50</td>
<td>Other rubber products</td>
<td>0.48</td>
</tr>
<tr>
<td>T51</td>
<td>Paper and paper products</td>
<td>0.44</td>
</tr>
<tr>
<td>T52</td>
<td>Plastics</td>
<td>0.47</td>
</tr>
<tr>
<td>T53</td>
<td>Dyestuff</td>
<td>0.39</td>
</tr>
<tr>
<td>T54</td>
<td>Paints and varnishes</td>
<td>1.35</td>
</tr>
<tr>
<td>T55</td>
<td>Insecticides and pesticides</td>
<td>0.91</td>
</tr>
<tr>
<td>T56</td>
<td>Drugs and pharmaceuticals</td>
<td>0.32</td>
</tr>
<tr>
<td>T57</td>
<td>Soaps and glycerine</td>
<td>0.57</td>
</tr>
<tr>
<td>T58</td>
<td>Perfumes and cosmetics</td>
<td>0.39</td>
</tr>
<tr>
<td>T59</td>
<td>Miscellaneous chemicals</td>
<td>0.53</td>
</tr>
<tr>
<td>T60</td>
<td>Coal and coke</td>
<td>0.72</td>
</tr>
<tr>
<td>T61</td>
<td>Matches</td>
<td>0.76</td>
</tr>
<tr>
<td>T62</td>
<td>Plantations</td>
<td>1.00</td>
</tr>
<tr>
<td>T63</td>
<td>Aluminum primary product</td>
<td>0.80</td>
</tr>
<tr>
<td>T64</td>
<td>Zinc</td>
<td>0.61</td>
</tr>
<tr>
<td>T65</td>
<td>Lead</td>
<td>0.58</td>
</tr>
<tr>
<td>T66</td>
<td>Tin</td>
<td>0.57</td>
</tr>
<tr>
<td>T67</td>
<td>Manganese</td>
<td>1.00</td>
</tr>
<tr>
<td>T68</td>
<td>Sulfur</td>
<td>0.65</td>
</tr>
<tr>
<td>T69</td>
<td>Sulfuric acid</td>
<td>0.65</td>
</tr>
<tr>
<td>T70</td>
<td>Rock phosphate</td>
<td>0.87</td>
</tr>
<tr>
<td>T71</td>
<td>Salt</td>
<td>1.00</td>
</tr>
<tr>
<td>T72</td>
<td>Wheat</td>
<td>0.87</td>
</tr>
<tr>
<td>T73</td>
<td>Soda ash</td>
<td>0.76</td>
</tr>
<tr>
<td>T74</td>
<td>Dry cells</td>
<td>0.52</td>
</tr>
<tr>
<td>T75</td>
<td>Ball bearings</td>
<td>0.40</td>
</tr>
<tr>
<td>T76</td>
<td>Electric fans</td>
<td>1.00</td>
</tr>
<tr>
<td>T77</td>
<td>Radio receivers</td>
<td>0.52</td>
</tr>
<tr>
<td>T78</td>
<td>Nonferrous metal alloys</td>
<td>0.69</td>
</tr>
<tr>
<td>T79</td>
<td>By-products of foodgrains</td>
<td>0.87</td>
</tr>
<tr>
<td>T80</td>
<td>Gypsum</td>
<td>1.00</td>
</tr>
<tr>
<td>T81</td>
<td>Limestone</td>
<td>1.00</td>
</tr>
<tr>
<td>T82</td>
<td>Iron ore</td>
<td>1.00</td>
</tr>
<tr>
<td>T83</td>
<td>Bauxite</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**Note:** The accounting ratio is the ratio of the social price to the market price; see note 11 to the text for a fuller definition. The unweighted means of these accounting ratios is 0.675, with a standard deviation of 0.294.

**Source:** Lal 1980.

The starting point for explaining this conclusion is a simple one: all countries need some foreign trade. In dealing with external shocks, the more inward-looking countries face greater costs of output forgone through compressing imports (which are mainly capital goods), and they have more difficulty in expanding exports because of a smaller proportion of their output is tradable. For these reasons, is countries have not only had slower growth but also more serious debt.
Table 4. Accounting Ratios for Traded Commodities in Korea, 1973

<table>
<thead>
<tr>
<th>Sector number</th>
<th>Commodity</th>
<th>Accounting ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Rice, barley, and wheat</td>
<td>0.84</td>
</tr>
<tr>
<td>2</td>
<td>Vegetables, fruits</td>
<td>0.79</td>
</tr>
<tr>
<td>3</td>
<td>Industrial crops</td>
<td>0.84</td>
</tr>
<tr>
<td>4</td>
<td>Livestock breeding</td>
<td>0.87</td>
</tr>
<tr>
<td>5</td>
<td>Forestry products</td>
<td>0.88</td>
</tr>
<tr>
<td>*6</td>
<td>Fishery products</td>
<td>1.27</td>
</tr>
<tr>
<td>7</td>
<td>Coal</td>
<td>0.85</td>
</tr>
<tr>
<td>8</td>
<td>Metallic ores</td>
<td>0.95</td>
</tr>
<tr>
<td>9</td>
<td>Nonmetallic minerals</td>
<td>0.87</td>
</tr>
<tr>
<td>10</td>
<td>Slaughtering, dairy products</td>
<td>0.85</td>
</tr>
<tr>
<td>11</td>
<td>Canning and processing</td>
<td>0.81</td>
</tr>
<tr>
<td>12</td>
<td>Grain polishing and milling</td>
<td>0.81</td>
</tr>
<tr>
<td>13</td>
<td>Other food preparations</td>
<td>0.80</td>
</tr>
<tr>
<td>14</td>
<td>Beverages</td>
<td>0.47</td>
</tr>
<tr>
<td>15</td>
<td>Tobacco</td>
<td>0.95</td>
</tr>
<tr>
<td>*16</td>
<td>Fiber spinning</td>
<td>1.16</td>
</tr>
<tr>
<td>*17</td>
<td>Textile fabrics</td>
<td>1.08</td>
</tr>
<tr>
<td>*18</td>
<td>Apparel and fabrications</td>
<td>1.08</td>
</tr>
<tr>
<td>*19</td>
<td>Leather and leather products</td>
<td>1.04</td>
</tr>
<tr>
<td>*20</td>
<td>Lumber and plywood</td>
<td>1.03</td>
</tr>
<tr>
<td>*21</td>
<td>Wood products and furniture</td>
<td>1.00</td>
</tr>
<tr>
<td>22</td>
<td>Paper and paper products</td>
<td>0.67</td>
</tr>
<tr>
<td>23</td>
<td>Printing and publishing</td>
<td>0.93</td>
</tr>
<tr>
<td>24</td>
<td>Inorganic chemicals</td>
<td>0.77</td>
</tr>
<tr>
<td>25</td>
<td>Organic chemicals</td>
<td>0.68</td>
</tr>
<tr>
<td>26</td>
<td>Chemical fertilizers</td>
<td>0.93</td>
</tr>
<tr>
<td>27</td>
<td>Drugs and cosmetics</td>
<td>0.80</td>
</tr>
<tr>
<td>28</td>
<td>Other chemical products</td>
<td>0.68</td>
</tr>
<tr>
<td>29</td>
<td>Petroleum refining</td>
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<tr>
<td>30</td>
<td>Coal products</td>
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<td>31</td>
<td>Rubber products</td>
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<tr>
<td>32</td>
<td>Nonmetallic minerals</td>
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<tr>
<td>33</td>
<td>Iron and steel</td>
<td>0.86</td>
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<tr>
<td>34</td>
<td>Primary iron and steel manufactures</td>
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<tr>
<td>35</td>
<td>Nonferrous metal manufactures</td>
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<tr>
<td>*36</td>
<td>Fabricated metal products</td>
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<tr>
<td>37</td>
<td>Nonelectrical machinery</td>
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<td>38</td>
<td>Electrical machinery</td>
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</tr>
<tr>
<td>39</td>
<td>Transportation equipment</td>
<td>0.83</td>
</tr>
<tr>
<td>40</td>
<td>Measuring, medical</td>
<td>0.67</td>
</tr>
<tr>
<td>*41</td>
<td>Miscellaneous manufactures</td>
<td>1.33</td>
</tr>
<tr>
<td>*56</td>
<td>Unclassifiable</td>
<td>1.33</td>
</tr>
</tbody>
</table>

Note: These ratios have been derived as described in Lal (1978b). The asterisked items were taken to be export sectors. The unweighted mean of these ratios is 0.883 with a standard deviation of 0.178.

problems than EPC countries: witness the contrast between the newly industrializing countries (NICs) in Southeast Asia and the Latin American Southern Cone countries.
For comparative purposes, three groups of economies have been selected. Group A consists of Hong Kong, Korea, Singapore, and Taiwan, which have followed EP strategies as defined in the Bhagwati-Krueger studies. Group B includes the Southern Cone countries—Argentina, Chile, Uruguay—plus a South Asian country, Sri Lanka. They are referred to as moderately IS countries, which made some effort to liberalize their trade regimes in the late 1970s. Group C consists just of India, an IS country in which the effective exchange rate for imports markedly exceeds that for exports.

**Group A: Export-Promoting Countries**

The four economies in this group have been the most dynamic exporters in the world. During 1970–79, their exports grew at an annual average rate of 25 percent, with manufactured exports growing at 30 percent. During 1978–81 their exports grew at 19 percent a year; then, with the world recession of the early 1980s, they actually declined. But they recovered more rapidly than the exports of any other group, despite experiencing greater external shocks than most other developing countries. The shocks were equal to 18 percent of GNP for Singapore, 10 percent for Taiwan, and 9 percent for Korea; for developing countries as a whole, the shock was 6 percent of GNP (Balassa 1984). By 1983, the GDP growth rates of all four economies were back to the 1970–82 average; so were their trade balances and export growth.

The four EP economies adjusted in two ways. First, they expanded exports by raising their market shares even when world demand was depressed. Second, they raised domestic savings. Korea was an exception to this rule, because its financial market was repressed. It financed part of the temporary loss in income by increasing its external borrowings—but, unlike most heavily indebted countries, it was able to service its debt without cuts in domestic output.

**Group B: Moderately Import-Substituting Economies**

The countries in this group tried to liberalize their trade regimes between the mid-1970s and the early 1980s. They are the Southern Cone countries of Argentina, Chile, and Uruguay and one South Asian country, Sri Lanka. All were initially successful in liberalizing their trade regimes. They speeded up their GDP and export growth and improved their external accounts. In the 1980s, however, they ran into crises of macroeconomic stabilization.

The Southern Cone countries shared a common path up to the mid-1970s. By that stage, Argentina’s GDP growth was slow (averaging 0.5
percent a year during 1965–73), and its trade heavily protected. Inflation was high—around 180 percent in 1975—so was unemployment. Effective rates of protection ranged from 111 percent for manufacturing to −13 percent for agriculture. Since the 1930s it had followed an IS strategy.

For Chile, too, the initial conditions were very difficult. GDP shrunk by 5.6 percent in 1973 on the eve of the reforms. Inflation had reached 1,000 percent. In trade, rates of protection averaged 217 percent, varying from 1,140 percent for petroleum and coal products to −7 percent for agriculture.

Uruguay had experienced prolonged stagnation during 1950–70. In 1965–73, GDP growth averaged 2.0 percent a year. Inflation had reached 97 percent, capital flight was substantial, and the currency was overvalued. By 1970 its IS strategy had hit the limits of the small domestic market.

All three countries undertook substantial economic reforms during 1975–80, of which a principal feature was trade liberalization. In Argentina, taxes on exports were reduced; so were import tariffs, thus lowering both the average level of effective protection and the variance. Following these reforms GDP growth averaged nearly 4 percent a year between 1978 and 1980. Manufactured exports increased by 216 percent in 1975–80. In 1978 the government started to preannounce exchange rates (the tablita). But it had failed to curb the fiscal deficit. The ensuing domestic inflation, coupled with a slowly adjusting nominal exchange rate, led to a rise in the real exchange rate, capital flight, and the collapse of the banking system (Calvo 1986). Because of this stabilization crisis, by 1982 the trade reforms had been reversed.

The Chilean trade reforms were the most far-reaching. All quotas were eliminated except those on motor vehicles. All tariffs were reduced to a uniform 10 percent by 1979. By 1977–78, the budget was balanced. The exchange rate was first put on a crawling peg, and then in 1979 fixed against the U.S. dollar. Also by 1979 the capital account was liberalized. The results of these reforms were dramatic. During 1976–81 GDP grew by 8 percent a year and manufactured exports by 30 percent a year. However, the opening of the capital account and the fixing of the nominal exchange rate led to a large appreciation in the real exchange rate. As in Argentina, this was followed by a balance of payments crisis, capital flight, and the collapse of the domestic banking system. In 1982 GDP declined by 14 percent, and unemployment reached 22 percent of the labor force.

In Uruguay, taxes on traditional exports were lowered in the mid-1970s. Nontraditional exports were given additional incentives. Price controls were reduced sharply, and restrictions on the inflow of private capital were eliminated. The results of these reforms were im-
pressive. Having averaged 1.0 percent a year in 1955–73, GDP growth rose to an average of 4.5 percent during 1974–80. In 1982, however, the worldwide rise in interest rates, combined with an appreciation in the real exchange rate (because of its tablita) and an increase in the fiscal deficit, led to a balance of payments crisis. GDP declined by nearly 10 percent in 1982.

The Southern Cone experience provides several lessons. The trade reforms were successful in raising export and GDP growth, particularly in Chile and Uruguay. But the overall attempt at economic liberalization failed eventually, because of unsustainable macroeconomic and real exchange rate policies (Corbo and de Melo 1985, de Melo and Tybout 1986). Compared with the Southeast Asian NICs, the Southern Cone countries faced more difficult conditions initially and made errors in macropolicy when it came to dealing with external shocks.

In Sri Lanka, the trade liberalization of 1977 reversed a longstanding strategy. By that stage, the economy was highly distorted—but not subject to the inflationary instability of the Southern Cone. For many years the economy was sluggish: in 1965–77, for example, GDP growth averaged 2.9 percent a year. The country's share of world trade declined, as did its volume of exports—by 1.5 percent between 1970 and 1977.

The wide-ranging reforms of 1977 mainly involved the trade regime and led to a dramatic economic recovery. Sri Lanka's GDP grew by 6 percent a year in 1978–85, and unemployment fell from 24 percent of the labor force in 1973 to 12 percent in 1981 (Bhalla and Glewwe 1986). By 1983, however, macroeconomic imbalances forced the government to slow down its reform program. Heavy public expenditure and a reluctance to close loss-making public enterprises proved to be incompatible with the trade reforms (Lal and Rajapatirana 1987). As in the Southern Cone, macroeconomic imbalances—in this case brought about by the financing of public expenditure by capital inflows—led to a real appreciation of the rupee and to a balance of payments and fiscal crisis.

The experience of this group of countries points to three lessons for trade liberalization. First, appropriate macroeconomic policies are vital to maintaining a more liberal trade regime. Second, an appropriate real exchange rate plays a bigger role in trade reform than was realized in the five comparative studies. Third, the order in which the various repressed markets are reformed seems to be important. In both Chile and Uruguay the liberalization of financial markets was destabilizing. It is still an open question whether this was due to the structure of the domestic financial market, or to poor macroeconomic and exchange rate management, or is an inherent property of financial liberalization itself.
Group C: Import-Substituting Countries

India’s relative immunity to the external shocks of the 1980s is often used to suggest that, over the long haul and despite the acknowledged productive inefficiencies of the country’s trade regime, India’s “delinking” from the world economy has allowed it to maintain much steadier growth in the past two turbulent decades. This view is mistaken, because any stability of domestic incomes achieved by delinking can also mean that average income is lower than if the international roller coaster is ridden efficiently.

India proves this point. Its trend rate of GDP growth has been 3–4 percent a year for three decades—much lower than the growth that could have been obtained by integration into a world economy, which boomed for two decades. To illustrate this loss, in 1960 the absolute size of Korea’s manufacturing industry was a quarter of India’s; in 1980 it was almost two-thirds of the size. Korean manufactured exports rose from virtually nothing in 1960 to more than $15 billion in 1980. In the same period India’s manufactured exports rose from $600 million to only $4.1 billion. “Even tiny Singapore has managed to export more manufactures in value terms ($11.7 billion in 1981) than India! India’s share in world exports has declined steadily from 2.4 percent in 1968 to a miniscule 0.41 percent in 1981” (Srinivasan 1986). Since labor-intensive manufacturing is a major means of providing employment and alleviating poverty in countries with a rapidly growing labor force and a scarcity of land, India’s inward-looking policies have done long-term damage to both growth and equity.

Though it is now fashionable to castigate Latin American countries for having followed “debt-led” growth in the late 1960s and 1970s, the subsequent income losses they may have suffered to service their debts have to be set off against the enormous previous gains in real incomes that debt-financed growth entailed (see Bhagwati 1986).

Two of the most influential development economists, Nurkse (1961) and Lewis (1980) have adduced a link between trade and growth in terms of the transmission of rapidly growing world demand to an open developing country: “trade as the engine of growth.” Nurkse (1961) argued that in the nineteenth century, trade had been such an engine for white settler communities, but predicted that it would no longer be so for developing countries in the second half of the twentieth century.

Nurkse’s historical analysis and his forecasts both proved false. The view that international trade assisted the growth of the countries of new settlement in the nineteenth century has been questioned by Kravis (1970). Essentially, he argues that economic growth is deter-
mined by internal factors. Foreign trade provides an extension of the domestic opportunities available for converting resources into goods and services. Furthermore, by widening the market, it enables a country to produce goods with decreasing costs of production. Probably most important of all, exposure to international competition is the best antimonopoly policy—and thereby prevents the development of high-cost industries.

Most of these benefits concern the efficient use of available resources and hence the supply side of an economy. The demand factors that preoccupied Nurkse and others cannot be as influential, because the countries that shared in the nineteenth century expansion of trade developed in such different ways. For instance, Australia seemed to develop whereas Argentina did not, despite similar natural resource, "white" populations (Argentina had none of the problems of assimilation posed for other countries in Latin America by an indigenous population), and a similar stimulus from the rise in foreign demand for their primary products. Thus, as Kravis emphasizes, though strong external demand for a country's exports may be helpful,

it is neither a necessary nor sufficient condition for growth or even trade to play a helpful role in growth... The term "engine of growth" is not generally descriptive and involves expectations which cannot be fulfilled by trade alone; the term "handmaiden of growth" better conveys the role that trade can play (p. 869).

More recently, Lewis (1980) has presented another model in which trade serves as an engine of growth. He bases his theory on the following empirical regularity:

The growth rate of world trade in primary products over the period 1873 to 1913 was 0.87 times the growth rate of industrial production in the developed countries; and just about the same relationship, about 0.87, also ruled in the two decades to 1973. World trade in primary products is a wider concept than exports from developing countries, but the two are sufficiently closely related for it to serve as a proxy. We need no elaborate statistical proof that trade depends on prosperity in the industrial countries (p. 556, emphasis added).

The italicized words contain by no means an innocuous assumption: whereas manufactures accounted for only 10 percent of developing countries' nonfuel exports in 1955, their share had risen to over 40 percent by 1978. Primary product exports can no longer serve as a proxy for developing country exports, as Lewis asserts. Nor, except for Sub-Saharan Africa, does the picture change much when the figures are disaggregated. There are big differences in the export structures of developing countries: manufactures now account for 75 percent of the exports of the four East Asian superperformers, for exami-
ple. But most countries in South Asia plus Brazil, Egypt, Mexico, Tunisia, and some smaller Latin American countries (together accounting for about two-thirds of the population of the developing world) have also raised the share of manufactures in their exports (on a trade weighted basis) from an average of 15 percent in 1950 to above 50 percent in 1978.

Disaggregation also greatly weakens Lewis's link coefficient of 0.87 between the rate of growth of industrial production in industrial countries and developing country exports (see Riedel 1984). Broadly speaking, Lewis's hypothesized link is unstable over time, and the only commodities to which it seems to apply are tea and sugar. For manufactures, the dominant and growing element in developing country exports, Riedel concludes that “the evidence... suggests that supply rather than demand factors have principally determined LDC export performance in manufactures.” This is also the conclusion of the numerous historical studies of the trade and industrialization policies of developing countries cited earlier (Little and others 1970, Balassa 1971 and 1982, Bhagwati 1978, and Krueger 1978). Despite creeping protectionism and the slowdown in industrial countries, Riedel noted that

whereas in the 1960s LDC exports of manufactures grew almost twice as fast as DC [industrial country] real GDP... in the 1970s, despite a general slowdown of growth after 1973, LDC exports maintained their rapid pace, growing four times as fast as DC real GDP. (p. 67).

Thus the view of trade as the engine of growth cannot adequately explain the link between neutral or liberal trade regimes and growth.

Other studies (Streeten 1982, Cline 1982) have argued that there is a fallacy of composition in generalizing the example of the East Asian NICs to the rest of the world. They claim that if all developing countries were to switch to export promotion, the industrial countries would become protectionist in an effort to stave off a surge in developing country exports. Ranis (1985) provides a thorough critique of these views (see also Havrylyshyn 1987). Ranis writes that, with the adoption of an EP strategy, “the much more substantial growth of per capita income resulting in the exporting countries would enable them to increase their imports from the North as well as each other” (p. 544). Unless developing countries were to run continual and massive trade surpluses, the industrial countries would boost their exports to them—a powerful counterweight to any protectionist lobbies. Despite the fears expressed about the “new protectionism” in industrial countries, the fact is that protectionism has by and large been kept at bay during the deepest recession since the 1930s.

Deepak Lal and Sarath Rajapatirana
It seems to be as firm a stylized fact as any in the economics of developing countries: a sustained movement to an outward-oriented trade regime leads to faster growth of both exports and income. How can this be explained? Krueger (1978) argues that mere neutrality of the trade regime is not enough:

There are numerous countries where incentives for export and import substitution have been about equal, and the results have not been spectacular . . . Although economic theory suggests that incentives for exports and for import substitution should be equated at the margin, in fact neither Brazil nor South Korea did so; during the rapid growth years [Korea after 1964 and Brazil after 1968] the bias in their regimes was toward exports (p. 282–83).

Krueger then compares two activist policies to encourage growth ("the alternative of a strictly laissez-faire regime is not explored") and argues that "a growth strategy oriented toward exports entails the development of policies that make markets and incentives function better, while an import-substitution strategy usually involves policies designed to frustrate individuals’ maximizing behaviour under market incentives" (p. 284).

These statements have misled some economists (see Streeten 1982 and the riposte by Henderson 1982) to suggest that an outward-oriented strategy necessarily involves an export bias. Of course, export promotion can be as inefficient and chaotic as protection, as India has shown (Lal 1979c). The liberal position on trade and growth (which we support) is different. As a first step it entails a neutral trade regime. The fact that such a regime does not necessarily lead to growth merely underlines the Kravis view of "trade as the handmaiden of growth," which sees internal factors as the biggest determinants of growth, with trade a helpful though not dominating influence.

However, a liberal trade regime (and an export-biased one) can help more directly than Kravis allowed to create a domestic economic system conducive to growth. This was one of Tumlir’s insights developed in a series of papers in the late 1970s and early 1980s but unfortunately not consolidated into the book he was planning to write when his life was so tragically cut short. Analytically, he accepted that the case for government intervention in foreign trade can be separated from that in the domestic economy—so that, whatever view one takes of the latter, the former is unjustifiable (except for the optimal tariff case). But he argued that the analytical separation in this "management economics for governments" was misguided (Tumlir 1981). Though it mitigated some of the irrational dirigisme of governments, it nevertheless implied that market failure was ubiquitous. The canons
of second-best welfare economics then allowed benevolent, omniscient, and omnipotent governments to intervene in the social interest.

There is another, clearer view of government motives and foresight. It is associated with Adam Smith and the classicists, whose modern votaries are the so-called neo-Austrians, and it recognizes the ubiquitousness of government failure. The case for a liberal trade regime then becomes part of the general case for markets against mandarins. The ideal balance between the two is discussed in Lal (1986), not in this article. But, if one accepts the need for restraints on the natural and often irrational dirigisme of mandarins in most developing countries, then the adoption of a liberal trade regime (irrespective of the ensuing gains from trade, static and dynamic) becomes an important means to this end.

This line of thought can be developed by making use of some ideas attributable to Maurice Scott on investment and growth (see Scott 1976). They also provide an antidote to the criticism by Lucas that static gains from free trade merely affect the level of income, not its rate of growth.

In the standard neoclassical growth model (Solow 1956, Swan 1956), the steady state growth of an economy—its “natural rate of growth”—is determined by the exogenously given growth rate of population \( n \), plus the rate of labor-augmenting (Harrod-neutral) technical progress \( t \) which falls like manna from heaven. Several authors, starting with Kaldor (1957), Kaldor and Mirrlees (1962), and including Arrow (1962), have argued that this exogeneity of productivity growth does not explain one of the mainsprings of economic growth. In various forms they have sought to introduce the rate of investment (which in the neoclassical model only affects the level and not the rate of growth) as an endogenous determinant of technical progress. In the standard neoclassical framework, an improvement in allocative efficiency in economy A compared with (otherwise identical) economy B leads to a higher level of income per person in A; it is as if A had saved more. But income does not grow faster. This result also holds in the Arrow (1962) and Kaldor-Mirrlees (1962) type of growth models, which seek to endogenize technical progress through a technical progress function that assumes a direct link between the growth of capital per person and the rate of labor-augmenting technical progress. However, as Eltis (1973) has argued, it is more plausible in endogenizing technical progress to include in the technical progress function the saving ratio instead of the rate of growth of capital. In that case an increase in allocative efficiency, which is equivalent to an increase in savings, will raise the growth rate.

These ideas have been further developed by Scott (1976). He argues that “investment is ... by definition ... the cost of change, and so will cover all activities associated with growth” (p. 317) and that
“growth due to capital and technical progress are both the result of investment” (p. 330) in the sense of “the cost, in terms of consumption forgone, of propelling the economy forward instead of leaving it in a stationary state” (p. 318). “Incurring capital expenditure leads to a rearrangement of the things of this world. It does not lead to there being any more of some substance ‘capital’. . . . There is then simply change which is due to investment, and to population growth. We cannot separate change which is ‘more capital’ from change which is ‘technical progress.’ We must abandon the attempt to distinguish between movements along a production function whose arguments are labor, land and all capital, and a shift in that function due to technical progress” (p. 331). Within his proposed framework, “the rate of increase of static income is a function of only two variables: total savings and labor force growth. There is no independent technical progress” (p. 331).

The key aspect of Scott’s analysis is its emphasis on “the importance of allocation” for the growth rate. Unlike the conventional framework, which views allocative improvements as providing “a once-and-for-all increase in output and a temporary boost to the growth rate while it is occurring,” Scott argues that “if, however, investment is essentially a matter of incurring costs to reallocate resources, then the efficiency with which this is done must affect the yield of investment, and so the proportionate rate of growth in the long run. So long as investment is occurring, reallocation is occurring. It is not once-and-for-all, but a continuing process, and, indeed, the principal source of growth in many countries” (p. 332-33).

Moreover, argues Scott, “investment at any given time is undertaken in a state of ignorance about the future. We make changes whose consequences we cannot wholly foresee, and, simultaneously, others are making changes of which we can only become aware after they are made. In the light of these changes we are then in a better position to make the next round of changes.” This implies “that there is an externality to investment” (p. 334). But “if the externality exists just because we are ignorant of the future effects of investment, it may be impossible to discover very much about the characteristics of investment that produce the externality” (p. 325).

This argument needs to be extended. It suggests the importance of an economic environment that is conducive to this ignorance-based, externality-creating form of investment. This is the place for the neo-Austrian insights concerning the role of the entrepreneur in an economic environment characterized by ignorance (see Lal 1986 for references and a fuller discussion). The entrepreneur is redundant in neoclassical economics, which assumes an environment of purely actuarial Knightian risk. But he is at the center of the neo-Austrian stage—creating and searching out investment opportunities and gambling on
the future. Like the speculator and middle man, the entrepreneur is an economic agent who lives by making money out of irreducible Knightian uncertainty. This entrepreneurial function must, for reasons to do with incentives and information, be decentralized. To the extent that an EP strategy has to rely on this entrepreneurial function (as export markets cannot be ensured by local mandarins), it will induce the creation of that economic framework in which Scott’s externality-creating investments will lead to faster growth.

The case for a free trade regime (or, as a second best, an export biased one) is thus close to that argued by the classical and neo-Austrian economists. As Keynes emphasized, the classical case against mercantilism was not based on laissez-faire, but rather on limiting state action to areas where such action was indispensable. These, broadly speaking, are to provide the public goods essential for the efficient functioning of market processes—law and order, stable money—and those infrastructural activities that affect public goods. The modern variant of the classical case, while accepting the need for an activist state, would seek to limit its activities. The state would be prevented from creating those policy-induced distortions that supposedly are there to cure endogenous distortions in the working of the price mechanism but which merely aggravate the level of distortions in the economy. Such distortions have led to large, though unquantifiable, losses, through diverting energies and resources from productive activities into the wasteful lobbying and rent-seeking activities so common in most developing countries. In this task of confining public action to its proper place, a free trade regime could be an important component. It would help to create an economic framework that provides the necessary incentives for entrepreneurship, productivity, and thrift. In a formal sense, these qualities are only dimly understood by economists. But they are, at bottom, the mainsprings of sustained and sustainable economic growth.

This article surveys empirical studies of the static gains from a movement toward free trade and studies of the dynamic effects of growth in exports on per capita income. It also summarizes comparative studies of the trade regimes of developing countries undertaken in the 1960s to 1970s, which show fairly conclusively that “outward-orientation” is associated with better economic performance. The conclusions of these studies are then tested for the more volatile global environment of the 1970s and 1980s. Various arguments are weighed about the dynamic income effects of the growth in world income and trade on a free-trading country’s economic growth rate—the “trade as an engine of growth” view. The closing section introduces insights of the classical writers that have reemerged in the neo-Austrian and the more recent neoclassical “new political economy” schools, which might explain the links between trade and growth performance. These emphasize the importance of the nonquantifiable aspects of a free trade (as compared with a protectionist) regime in creating a general economic framework conducive to individual entrepreneurship, productivity, and thrift. In this context we argue that free trade is the “handmaiden of growth,” as it indirectly constrains the state...
from going beyond the bounds of necessary public action for the provision of those
domestic public goods that are essential for development.

**Notes**

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prepared for the conference on "Free Trade in the World Economy" organized by the
Institute for World Economics, Kiel. This article is dedicated to the memory of Jan
Tumlir.

1. Thus it is recognised that endogenous domestic distortions may require appro-
priate domestic public interventions for their correction; where the country has mono-
poly (monopsony) power in trade and can feasibly influence its terms of trade, taxes or
subsides on trade may be justified.

2. See Srinivasan and Whalley (1986) for a comprehensive discussion and evaluation
of the principal models in this genre. Also see Srinivasan (1986a, 1986b, and 1987).

3. Also see Krueger (1984), Taylor and Black (1974), and de Melo (1978), for other
model-based estimates of these static gains.

4. But see the note to the figure for the decomposition of this loss into that due to
the tariff and lobbying.


6. The World Bank’s *World Development Report* is published annually by Oxford
University Press.

7. Leamer is also quite cautious about Granger’s defense that: “provided I define what
I personally mean by causation, I can use the term.” Leamer rightly castigates Granger
for misusing common language and for misleading persuasive definitions. He writes: “I
detect a certain lack of concern for the human capital that is invested in our language.
If I were to continue in that tradition I would propose that we henceforth refer to this
notion of precedence by the word pair: fool’s causation. This substitutes a loaded word
‘fool’ for the neutral ‘Granger’ just as ‘causation’ has replaced the neutral ‘precedence.’
Moreover, ‘fool’ is decidedly simpler than ‘Granger’—it contains only four letters, one
of which is repeated—and, like ‘cause,’ it is rather difficult to define precisely. One man’s
fool is another man’s genius. My definition of a ‘fool’ would be a friend of mine living
in San Diego” (Leamer 1985, p. 284). But, as Leamer is at pains to emphasize, this does
not mean to imply that the atheoretical statistical technique of vector autoregressions
underlying the new econometrics cannot be useful as a descriptive and perhaps a
forecasting device.

8. See also McKloskey (1983) who rightly argues that the evidence adduced in support
of particular economic propositions must be eclectic and cannot be confined to the
positivist statistical testing that is currently so fashionable. As Hicks argues, “the
usefulness of ‘statistical’ or ‘stochastic’ methods in economics is a good deal less than
is now conventionally supposed. . . Thus it is not at all sensible to take a small number
of observations (sometimes no more than a dozen observations) and to use the rules of
probability theory to deduce from them a ‘significant’ general law. For we are assuming,
if we do so, that the variations from one to another of the observations are random, so
that if we had a larger sample (as we do not) they would by some averaging tend to
disappear. But what nonsense this is when the observations are derived, as not
infrequently happens, from different countries, or localities, or industries—entities
about which we may well have relevant information, but which we have deliberately
decided by our procedure to ignore. By all means let us plot the points on a chart and
try to explain them; but it does not help in explaining them to suppress their names.
The probability calculus is no excuse for forgetfulness” (p. 122).

9. See Lal (1981), and for an emphatic reassertion of this point see Bhagwati (1986).
This point is also emphasized in the last chapter of Bhagwati (1978).
In this context it may also be useful to distinguish a liberal trade regime from a neutral one. A failure to do so has caused some confusion about the nature of what different developing countries have done to liberalize their trade. A neutral trade regime is one where incentives for import substitution do not outweigh those for export promotion; but it does not rule out (essentially offsetting) trade interventions. A liberal trade regime ensures this neutrality of trade incentives, because of the absence of trade intervention. We owe this point to Soogil Young's comment on our paper at the conference.

10. For these LM shadow price estimates see the references in Little and Scott (1976); in addition see Little and others (1979) for Pakistan, Lal (1978a) for the Philippines, Lal (1978b) for Korea, Lal (1979a) for Jamaica, Lal (1980) for India, and Lal (1979c) for Sri Lanka.

11. These LM accounting ratios are the commodity-specific ratio of the domestic to border price (c.i.f./f.o.b.) of the traded good, with the dollar value of the border price converted into local currency at the official exchange rate. The effective exchange rate on exports (imports) is the units of domestic currency that can be obtained for a dollar's worth of exports (imports). Thus the rates are weighted averages of the relevant accounting ratios of traded commodities, where the weights are the actual shares in exports (imports) of the relevant commodities.

12. Wade in a private communication has stated that we have misrepresented his position, which he says is from Wade (1985): "In the comparison between Taiwan and Korea, on the one hand, and India and Latin America, on the other, the first important fact about trade regimes is that the East Asia type is more 'liberal' in the sense that the average level of protection is much lower. But the second important fact, which the neoclassical argument has tended to ignore, is that dispersion around the average is much higher in East Asia, because selective promotion of some industries requires high protection to a small number" (p. 27). However, as can be seen from tables 3 and 4, the dispersion around the average protection is also lower in Korea than India, as measured by the respective standard deviations of the accounting ratios in the two countries.

13. This is in relation to the effective exchange rates for exports and imports.

14. These countries attempted to move from Phase II to Phase III of the restrictive trade regimes in the Bhagwati-Krueger sense. See Krueger (1978).


16. The export tax on wheat was reduced from 56 percent to 5 percent, on corn from 46 percent to 16 percent, and for wool from 33 percent to 16 percent from July 1976 to July 1977 (Nogues 1981).

17. The external shock to India was 2.1 percent of GNP in the 1974–78 period. See Balassa (1981).

18. Much of this is based on Lal (1983).

19. See Hahn and Matthews (1965) for a more complete survey.

20. See Dixit (1976, p. 81 and following) for a lucid discussion of the models that seek to endogenize technical progress. See also Hahn and Matthews (1965).

21. Formally in the standard Solow-Swan model, the determinants of the steady state growth rate are:

\[ g_o = g_k = s/v = n + t \]

where

- \( g_o \) = growth rate of output
- \( g_k \) = growth rate of capital
- \( s \) = savings rate
- \( v \) = capital output ratio
- \( n \) = rate of population growth
- \( t \) = rate of Harrod neutral (labor-augmenting) technical progress.

With \( n + t \)—the natural rate of growth—determined exogenously, changes in the savings ratio will not affect the steady state growth rate of output or capital, but through
countervailing changes in the capital output ratio \((v)\) merely lead to changes in the levels of capital and output per capita.

In the Eltis framework, the exogenously given technical progress term \(t\) is replaced by an endogenously determined term whose argument is savings \((s)\), hence in this alternative framework,

\[
g_y = g_k = s/v = n + \phi(s)
\]

where \(\phi\) is an increasing concave function (see Dixit 1986, ch. 4). Actual and “as if” increases in savings because of improved efficiency will now lead to a rise in the growth rates of output and capital \((y\) and \(k)\).

22. Lucas (1985) presents a neoclassical model of economic development in which a central element is an externality in human capital investment. Many of his insights would seem to complement those of Scott, except that he draws unwarranted dirigiste implications from them.

References


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When will villagers come together to produce goods and services that they all need but cannot provide individually? In what circumstances will those who face a potential "tragedy of the commons" be able to formulate rules by which the tragedy is averted?

Many writers on collective action are inclined to think that the circumstances are very limited. They argue that people in a situation in which all could benefit from cooperation will be unlikely to cooperate without an external agent to enforce agreements. Likewise, many theorists on property rights argue that common property resources will be overexploited as demand rises, so only private enclosure or state regulation stands a chance of preventing such a result.1

This article offers a critique of some of the analytical arguments used to reach these conclusions and argues that they have been inappropriately applied to certain types of village resources. It then discusses how to judge whether villagers will be able to sustain local rules of restrained access to common property resources and interprets the evidence from a study of forty-one villages in South India.

Clearly there can be no general presumption that collective action rather than privatization or state regulation will work: witness the frequency of degraded grazing commons, despoiled forests, overexploited groundwater, and depleted fisheries. But there are many examples of villagers collectively managing property for long periods. Privatization or state regulation is therefore not always essential. A third option—local collective action—needs to be taken seriously. Because
less public money is likely to be needed for local collective action than for either privatization or state regulation, it makes financial sense to establish local rules where circumstances permit.

**Common Property and Common-Pool Resources**

On a continuum of property rights, exclusive possession (freehold) is at one end. At the other is no property, as in ocean fisheries or the atmosphere. In between lies common property, where the rights to exploit a resource are held by people in conjunction with each other. These rights may take several forms: they may allow unlimited exploitation for those within a specified group (as happened in commercial fisheries under national jurisdiction) or they may stipulate limits for each user (as in most commercial fisheries today or as in “stinting” of a grazing commons).

Of course, the same type of resource may be exploited under a variety of property rights. This article deals with those resources that might be called “common-pool” resources—a subset of public goods, as that term is used in economics. All public goods have the property that many people can use them at once, because exclusion is difficult. But some public goods yield infinite benefits, in the sense that if A uses more there is not less available for others (lighthouses and weather forecasts, for example). Common-pool resources, by contrast, are public goods with finite, or subtractive, benefits: if A uses more, less remains for others. Common-pool resources are therefore potentially subject to congestion, depletion, or degradation (Blomquist and Ostrom 1985; Randall 1983).

Groundwater is an obvious example of a common-pool resource. It can be used jointly, but use is subtractive. So when water is scarce, the groundwater table is likely to be depleted. Canal irrigation water, unfenced grazing land, and unfenced forest all meet the same criteria. These three resources—water, grazing, and trees—are vital to the livelihoods of millions of people in developing countries; the question of how to prevent their overexploitation as population grows is important for development policy.

The prevailing answer runs as follows: when people are in a situation where they could mutually benefit if all of them restrained their use of a common-pool resource, they will not do so unless an external agency enforces a suitable rule. Each individual has an incentive to ignore the social costs of his behavior for fear that others will exploit the resource before he does. As a result, the rate of aggregate use exceeds the physical or biological rate at which the resource renews itself (Ostrom 1985b).

This argument has been used to justify far-reaching proposals for changing the way that common-pool resources are managed (Ostrom 1985a; Runge 1986). According to one school, full private property
rights over the commons are a necessary condition for avoiding over-exploitation (Demsetz 1967; North and Thomas 1977; Johnson 1972; Picardi and Siefert 1976). According to another, it is essential to give an external agency—usually the state—full authority to regulate the commons (Carruthers and Stoner 1981; Hardin 1968). For both schools, the policy issue is simply how to achieve the desired change with the least opposition from those involved.

Defining the conditions under which users of common-pool resources may voluntarily restrain their use can be considered as a subproblem of the theory of collective action, also known as the theory of public goods. Collective action is action by more than one person intended to achieve a common goal or satisfy a common interest (that is, a goal or interest that cannot be obtained by an individual alone). Achievement means that a public or collective good has been provided. The collective action might be setting and observing a rule of restrained access to a common-pool resource, and the public good might be the sustainable exploitation that results.

One of the theories that has generated pessimism about the viability of collective action is Mancur Olson’s “logic of collective action” (which might better be called the illogic of collective action, or the logic of collective inaction). His core proposition is this: “unless there is coercion or some other special device to make individuals act in their common interest, rational, self-interested individuals will not act to achieve their common or group interests” (Olson 1971, emphasis added). In other words, the theorem says that (a) voluntary collective action will not produce public goods, and (b) collective action based on selective (that is, excludable) penalties or rewards may produce public goods. Existing cases of common interest groups are thus to be explained by selective punishments or inducements.

My findings question this argument.

The conventional view of Indian villages is that they lack any real public realm. A number of men are regarded as “big men,” in some sense first in the village. But there is no clearly defined social domain or institution separate from state authority where activities of a public nature are carried out, no center of community management other than the lowest levels of the state apparatus itself, and no machinery for raising resources for public (village) purposes other than through state-sanctioned taxation.

I analyzed forty-one villages in South India (Kurnool district, Andhra Pradesh), thirty-one of which are irrigated from one or another of two large canal systems, while the other ten are dry. Despite the
conventional view to the contrary, a significant number of these villages do provide public goods and services through local arrangements that have nothing to do with outside bodies, whether government or voluntary agencies.

The Public Realm

Kurnool district is semiarid; rainfall averages 620 millimeters a year in a unimodal distribution. Population density averages 105 people a square kilometer (1971), up from 53 in 1870. Seventy percent of the cultivated area is under foodcrops; only 12 percent is irrigated. Thirty-four percent of villages are supplied with electricity (1971). There is one tractor for every one or two irrigated villages, and many fewer in rainfed villages (1980). Most variation in real wage rates is contained within the range of 1.5 to 4.5 kilograms of foodgrain a day.

In those villages that have a public realm, it consists of four main institutions: a village council (distinct from the statutory Panchayat, which is moribund in all the forty-one villages); a village standing fund (distinct from local government moneys); a group of village guards, employed by the council to protect crops from livestock and thieves; and a group of "common irrigators," employed by the council to distribute water to the rice fields and to help get more water to the village through the government-run canal. The council, and through it the field guards and common irrigators, are loosely accountable to an annual meeting of all the village's farmers.

The council also organizes the supply of many other public goods and services, such as repairing wells, ridding the village of monkeys, and making donations for a new primary school or a building where sick animals can be treated, and so on. All these services except water distribution are financed from the village standing fund, for which the council raises money in a variety of ways.

Take K village as an example. Its population is just over 3,000. The council has about nine members (the number is fixed for any one year, but varies slightly from year to year). It has authority to make decisions affecting all the village. The village's standing fund spends about Rs 10,000 a year (in an economy where a male agricultural laborer gets Rs 4 a day outside of seasonal peaks). The standing fund pays the salaries of the field guards. Four are employed full-time for most of the year, and another two to four are added as the harvest approaches. About twelve common irrigators are employed for up to two and a half months, for about 1,200 acres of first-season rice. At harvest the common irrigators supplement the field guards in protecting the crops.

In the sample of thirty-one canal-irrigated villages, eight have all four of the main corporate institutions—council, fund, field guards, and common irrigators; eleven have some but not all; and twelve have
none. These proportions are not necessarily typical of the whole area, since the sample was drawn not randomly but with an eye to ease of access and a representative range of water arrangements. Among the ten dry villages, eight have field guards; six have a village council; and six have a village fund.

The impetus for central (village) control comes primarily from two distinct sources of social conflict and production loss. Trespassing animals and thieves are one. Unrestrained use of irrigation water is the other. These are discussed in turn, using K village as an example.

K has a population density of 159 people a square kilometer. With this density goes a farming system of annual cropping (at least one crop on each plot each year) and multiple cropping where irrigation permits. Little waste or yearly fallow land is left; the village has no common, in the sense of a large area available for common grazing for a year or more. But oxen and buffalo are needed for traction, and they must be fed. During the growing season they graze close to the crops, on the verges or on small areas of fallow, which are treated as commons. Because fields are not fenced, the animals must be tethered or shepherded. But the incentives for careful shepherding or tethering are asymmetrical—I may not be unhappy to see my animals get fat on your grain. The rationale of the field guards is to make the incentives less asymmetrical. During the medieval and early modern period in Europe, the open-field system solved the problem primarily by regulating the cropping; these Indian villagers solve it mainly by regulating the livestock.

If the field guards catch an animal grazing a standing crop, they take it to the village pound, where it remains until its owner pays a fine. If just a few animals are involved, the fine is a flat rate—Rs 2 per animal during the day, Rs 4 at night. The rate is set by the council; the field guards collect and keep the fine, dividing it equally among themselves. If many animals are involved, the council uses its discretion. The fine may run into hundreds of rupees. The field guards collect it, keep 25 percent, and hand the rest over to the standing fund. (In most villages the owner of the damaged crop is not compensated.) The field guards do not enforce a stinting. The decision about how many animals to own and graze is left to each individual.

After the harvest of most of the rainfed crops in February, large areas of stubble become available for grazing. (Even in irrigated villages, the area under rainfed crops is generally greater than the irrigated area.) Each landowner could reserve his stubble for his own animals or those he chose to allow. He could do so by posting guards around each field or by fencing. But the cost of either method—the cost of privatizing the stubble—is very high; all the more so as each
landowner tends to have his holding divided into several scattered plots (McCloskey 1975). So, as in the open-field system of Europe, the stubble is put in common; private rights to the product of the land extend only to the crop, not to the crop residues.

How, in the "corporate" villages, is this commons managed? Since the village's own stock of animals is adjusted to the availability of year-round grazing, after the harvest it has some surplus grazing, which it could rent out to herdsmen from drier parts of the district.

The market for grazing and manure is organized in two ways. In one system, a small group of herdsmen bargains with the council for exclusive access to the village's grazing. The bargain states how many sheep and goats they will bring, when they will come, how long they will stay, and how much they will pay for the franchise. Once the bargain is made, those herdsmen have exclusive claim to the village's grazing, and others can enter only as some leave. Their flocks graze over the stubble by day. By night, when the animals drop most of their manure, they are put on the plots of particular landowners, who pay them an agreed nightly rate per animal. So the herdsmen as a group pay the village a lump sum for access to the commons; and they individually get back part of what they pay through the sale of manure.

The second method (used in K, among others) is more complex. Again, a group of herdsmen obtains exclusive access. But instead of a group rent, an auction is held regularly (every four days in K) to decide who will have each flock on his land at night up to the next auction. The auction is arranged by the village council. Half the winning bid (for each flock) is then paid to the herder, and half goes to the village fund. In K, some 9,000 to 13,000 animals commonly enter the village for about six weeks, and the village fund gets about Rs 5,000 in return.

Such a large number of animals entering the village when some crops (mainly the irrigated ones) are still standing poses a serious risk of loss for those crop owners. The response is to tighten the regulation of the livestock in two ways. One is to stipulate rules for both herder and landowner. These rules are read out at the first auction of the year and may be read out again if infringed. They are worth repeating here because they do not fit easily with the view that Indian villagers cannot, so to speak, get their act together (although they may seem unremarkable compared with the elaborate by-laws of open-field villages in medieval England cited in Ault 1973).

For the herder:

- He must take the flock to the designated field by 6:30 p.m. and keep it there until 8:00 a.m.
- He must not allow the flock to graze standing crops.
• He must deposit with the council half the money paid to him for the first “turn” (four nights); if he leaves before completing four turns (sixteen nights), he forfeits his deposit to the village fund. (This is to discourage herders from leaving before the farmers have had their fields manured and cleared of stubble.)
• He must stay within the village boundary; if the farmer asks him to go to a field outside he must refuse.

For the farmer:

• He must keep the flock within the village boundary.
• If he prefers to pay the fund or the herder in kind rather than cash, he must make the conversion at the rate (in early 1980) of Rs 1.25 per measure of hybrid sorghum or Rs 1.50 of “local” sorghum.
• To help the herder guard the flock at night, he must provide two men for each 2,000 head. Hired guards must be paid Rs 3 a night, or the equivalent in grain. (This is to prevent the farmer from sending nonablebodied men, who could be paid less.)

Such rules are not self-enforcing. Any one farmer would have an incentive to cheat, by not providing the stipulated number of guards or by bringing the flock to a field outside the village boundary. So joint regulation is carried further by means of village-appointed guards.

To pay the guards, it would be possible for the council to set a flat rate—so much per cultivated acre—which each landowner had to pay. But such an arrangement would be vulnerable to free riding: a farmer could delay payment indefinitely, expecting that others would not similarly delay. In most villages this free rider problem is avoided by raising the money for the guards’ salaries from a collective source. The chief source is the money received from the sale of the grazing franchise, which is generally enough to pay for a semipermanent team of field guards.

The “corporate” irrigated villages tend to have several other sources of revenue for the standing fund, based mostly on the sale of council-sanctioned franchises. In addition to the grazing franchise, a franchise to sell liquor is a valuable source of revenue. By law the franchise is sold in a government-run auction. However, the corporate villages usually send just one person from their village, thus acquiring the franchise at the lowest price. They then auction it within the village which, with competition, produces a higher price. The difference between the two prices goes to the village fund. Or again, one village in the sample has an irrigation tank (a small reservoir). Each year the council stocks it with fingerlings, and later in the year auctions the franchise to catch the fish, the money going to the fund. Some villages auction the right to collect a commission on all their grain sales.
Any irrigation system that experiences water shortages poses an inherent conflict between farmers upstream and those downstream. Those upstream have first access, and their supply is relatively abundant; how much they take determines how much the downstreamers will get. Without some rules about access, continual conflicts are likely.

The villages in the sample are irrigated from large, government-run canals and grow rice in the first (wet) season. The rice is transplanted in late July or early August and harvested in December and January. By the end of September the heavy rains have normally stopped, so the crop depends on canal water. Common irrigators are then appointed to allocate the scarce and fluctuating supply of canal water over the village's land and also to procure, by various means, more water from the government-run supply (which may include surreptitiously blocking the outlets of upstream villages).

This arrangement is notable in two respects. First, the common irrigators do not decide how much land will make a claim to the irrigation water; that is left to individual farmers (as are decisions about how many animals to graze). Second, however, once the common irrigators are appointed, they take important decisions out of the hands of individual farmers, in the name of a villagewide authority.

The criterion used by the common irrigators is “adequately wetted.” Each field is entitled to be adequately wetted, but it cannot get more water until the other fields downstream from that outlet (most villages have several outlets) have also been adequately wetted. This criterion is quite different from the open access, first-come-first-served rule that prevails before the common irrigators are appointed. The criterion is also quite different from the approach in northwest India, where canal water is always scarce; there during a fixed period of the week each field is entitled to draw whatever water is flowing in the watercourse, but cannot draw more until the same time the following week.

The difference in approach presumably derives from the difference between rice (in Andhra Pradesh) and other crops (in the Northwest). Rice is more adversely affected than other crops if the water available is less than potential evapotranspiration; however, rice does not suffer from excessive irrigation. As a result, one farmer’s overgenerous irrigation of a rice crop can cause drastic yield reductions for others. Therefore, whereas the Northwest’s “fixed time per acre” method is self-policing—the next farmer in line knows exactly when his turn should start—the judgment of adequate wetting cannot be left to each irrigator and must be made by people answerable to a villagewide authority.

Farmers who steal water—who try to influence how much water...
they get once the common irrigators have been appointed—are liable to be fined by the council. During a drought, the fines may be Rs 20 to 50 each time, but the main penalty is the stigma of being dressed-down in front of the council.

The common irrigators are paid at harvest time, not from the village fund but by means of a levy—so much per irrigated acre—on each irrigator. The rate is set by the council. Is this not vulnerable to free riding? The short answer is no, because the levy is in kind rather than cash and is made at the harvest—the one time of the year when every farmer has no excuse to delay payment in kind. More important, common irrigators who are not paid one year can damage the nonpayer the next year. The withdrawal of common irrigator services from one individual's land has graver implications than does the withdrawal of field-guarding services.

This article has so far discussed how things are done in the corporate villages, those with all or most of the four corporate institutions. Although most of the detailed information comes from K village, the organization of the four key institutions varies little from village to village, even though they were not imposed from above.

Many villages, however, have no corporate organization: no village council, no standing fund, no common irrigators, and no village-appointed guards (though private landowners may hire their own, sometimes forming small groups to do so). In these villages the rule of open access to canal water applies, although informal turn-sharing may develop along some watercourses. And uncoordinated groups of herders may enter a village's land at will, or with the permission of the headman, and will negotiate with individual farmers about where they fold their flocks at night.

Why the difference between the corporate and uncorporate villages? The first point is that the corporate irrigated villages are located toward the tail-end of an irrigation distributary (roughly, the bottom one-third of its length; typical distributaries are ten miles long). The second point is that the corporate dry villages tend to be located in areas with black, rather than red, soil. The third point is that, in the semiarid tropics generally, black soil areas tend to be lower down a watershed than red soil areas. So irrigated villages toward the tail-end of a distributary also tend to have a higher proportion of black soils.

Black soils are more water-retentive than red soils, allowing a wider range of rainfed crops and a higher yield—and hence a more abundant and varied supply of stubble. With unrestrained access, too many animals might come in, damaging the soil. Moreover, the risks of crop loss are higher: with the more varied cropping pattern of black soils, large areas of stubble from the early-harvested crops will become

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available when other crops are still standing. This provides the impetus to arrange for the fields to be guarded, which can be financed by the herders’ willingness to pay for the better grazing on black soil.

In theory, the power structure of the village might be such that collective action was impossible because it was not supported by a few key households with land close to the canal. In practice, however, holdings are typically scattered in small parcels, partly because landowners want to diversify risk. A family with land close to one irrigation outlet may have another plot close to the tail-end of a block fed from another outlet. This greatly helps the consensus on the need for rules and joint regulation.

Areas of rainfed cultivation higher up a distributory have more red soil, which dries out sooner after the rains stop. They therefore have less stubble, so herders are less interested in grazing there. The higher irrigated areas tend to be under rice in both seasons, but sheep and goat manure is wanted mainly for other crops. So both the demand and supply of animals and grazing is less in the higher villages—and canal water there is more plentiful and reliable. It is in villages lower down a watershed that the potential for conflict is greatest. The evidence of my sample suggests that these lower villages are very likely to have an organized public domain, with rules on the use of water and grazing and the provision of other public goods.

How effective are the rules of restrained access in changing the way that resources are used? This question is difficult to answer, because it is hard to find a pair of similar villages, one with corporate institutions, one without. All one can say with confidence is that both production and equity are greater where rules and institutions apply than they would have been had the same villages been unorganized. Where individual benefits from joint action are high, joint action is likely to be forthcoming.

This is not to say that the temptation for self-interested individuals to go for immediate gain is minor. The need to respond to the free rider problem affects a village’s organization. The typical council has developed formidable arrangements for enforcing the rules, precisely to convince each individual that his fellow villagers will probably abide by the rules, so that if he too does so he will not be the sucker (Runge 1984). These expectations are reinforced by the social composition of the council, an elite body with no pretense at representation. Councils have increased their authority with the passage of time: in all these villages, they have been operating for several decades at least.

Lessons for Theory

What of Olson’s argument? One of its main weaknesses is a lack of attention to the size and nature of the collective benefit. It concentrates instead on the size of the selective benefits and costs, those that
can discriminate between people according to whether or not they help to provide the public good. It simply assumes the net collective benefit to be high, since free riders must by definition be among those who value the public good highly. So the argument is geared to interpret noncooperation as evidence for the free rider hypothesis, rather than for the hypothesis of low collective benefit. In these Indian villages, however, cooperation and noncooperation are explained in terms of high and low collective benefit, as indicated by downstream or upstream location on a water supply channel and by black or red soils. The presence or absence of selective punishments has little bearing on the variation among villages.

Another qualification to Olson concerns the source of control and punishment. Olson's key proposition—that examples of collective action groups can be explained as the response to selective punishments or rewards—differs from the more conventional notion that joint behavior is related to the presence of an external enforcer of agreements. Olson is not entirely clear on whether the source of selective punishment or reward is inside the group or outside. But he can be read to mean that the penalties must be organized from outside the group.

This notion is contradicted by my findings and those of many others. There are many examples where villagers have established rules, monitored the conditions of the commons, checked for cheating, and assigned punishment.3 There are also, of course, many more examples where attempts to do so have failed; in the absence of state regulation or private property, the commons has then degenerated. But the successful examples of local rules show that regulation of the commons does not have to be imposed from outside (McKean 1984; Ostrom 1986).

Where Olson and other pessimists about collective action are surely right is in the need for coercion to back up agreements. Their emphasis on the difficulties of voluntary collective action is a useful counter to the simple optimism of those who believe that community development projects, people's participation, water users' associations, and the like are mainly a matter of teaching people about their real common interests or promoting values that are less individualistic. On the contrary, rules that make people do what they may not immediately want to do are a necessary ingredient of managing common resources, so that while free riding tendencies may remain, they need not destroy the organization.

The voluntariness of collective action, therefore, has to be considered as a constitutional issue and as a matter of action. Constitutionally, people can agree on a set of rules of restrained access or financial contributions, their incentive to do so being prospective net collective benefit. In action, compliance with the rules must also be mainly voluntary, not the result of a calculus of evasion and punishment. But
the rules must be backed by a system of punishment, which helps to assure each individual that if he follows the rules he will not be cheated, and which at times of crisis can directly deter violations.

Lessons for Organizational Design

If an outside authority wanted to encourage the establishment of some cooperative bodies, how would it choose to design them? One lesson is that, in the South Indian context at least, villagers are likely to follow joint rules and arrangements only to achieve intensely felt needs that could not be met by individual action (Johnston and Clark 1982). These are likely to involve primarily the defense of production (avoidance of crop or animal loss), secondarily the enhancement of income, and last by a long way, education, nutrition, health, and civic consciousness. The opportunities for avoiding losses or boosting income by collective action will be taken only if the losses or gains are large. In my irrigated villages, corporate organization to manage common property is found, with barely an exception, only toward the tail-ends of distributaries.

The second lesson is that corporate organizations, to be effective, should be based on existing structures of authority. In practice, this means that the council will be dominated by the local elite, which is a disturbing conclusion for democrats and egalitarians. But rules made by the majority of villagers would carry little legitimacy in the eyes of the powerful. More important, the effectiveness of a council depends on its councillors all having a substantial private interest in seeing that it works, and that interest is greater the larger a person's landholding (provided holdings are in scattered parcels). Moreover, the tendency of the nonelite to cheat can be checked by the sanctions of the village's power structure. Without these wider sanctions, the council's formal penalties would probably be ineffectual. This point tends to be overlooked in the public choice literature because it assumes a context of free and equal individuals.

If the elite runs the council, will it not become another instrument of exploitation? That is not so in these Indian villages, which reflects the third design lesson: the council is concerned only with nonprivatizable benefits. It is not involved in supplying inputs other than water. It is not involved in settling disputes unrelated to husbandry or water. It does not try to compensate the owners of animal-damaged crops, for that would create conflict about privatizable value. In K village, the council once tried to intervene in the allocation of a privatizable good (rationed sugar): the conflicts over who got it became so strong that the council almost ceased to function.

The fourth lesson is that a council should take on less vital functions (well repairing, monkey catching, and so on) only when it is very good at the core (income-defending or income-enhancing) activi-
ties. Not all those councils that are organized to do the essentials also do much less-essential work.

The fifth lesson is to keep the techniques of calculation and control simple. Some record keeping and accountability are needed, so as to "institutionalize suspicion," in Ronald Dore's phrase (1971). But the accountability procedures are straightforward in these Indian villages. There is an annual general meeting of all farmers to discuss the forthcoming season, ratify the new council, and receive nominations for guards. The records on standing fund income and expenditure are simple and are read out at the general meeting. Meetings of the council are held in the open, and anyone who passes can listen on the fringes.

One specific lesson is that, where water users' associations are deliberately fostered, the right unit of organization is usually the whole village. Attempts to form a water users' association around each canal outlet are likely to be futile if such a group of farmers does not already do other things together. The group will simply not contain enough authority. Yet many programs for irrigation improvement in India assume that the natural unit of organization is the outlet or some other hydrologically defined unit.

More generally, what can be said about the conditions on which successful collective action depends? In the extreme case—many users, unclear boundaries of the common resources, people scattered over a large area, rules easy to break—degradation of the commons can confidently be expected as demand increases, and privatization or state regulation may be the only options. The likelihood of successful collective action therefore depends on the following:

- **Resources.** The smaller and more clearly defined the boundaries of the common resources, the greater the chances of success.
- **Technology.** The higher the costs of exclusion technology (such as fencing), the better the chances of success.
- **Relation between resources and users**
  Location: The greater the overlap between the location of the common-pool resources and the residence of the users, the greater the chances of success.
  Users' demands: The greater the demands (up to a limit) and the more vital the resource for survival, the greater the chances of success.
  Users' knowledge: The more users know about sustainable yields, the greater the chances of success.
- **Characteristics of users**
  Size: The smaller the number of users, the better the chances of success. However, there is a minimum number below which the tasks able to be performed by such a small group cease to be meaningful.
Boundaries: The more clearly defined the boundaries of the group, the better the chances of success.

Relative power of subgroups: The more powerful are those who benefit from retaining the commons and the weaker are those who favor enclosing private property, the better the chances of success.

Existing arrangements for discussion of common problems: The more developed such arrangements are, the greater the chances of success.

Extent to which users are bound by mutual obligation: The more concerned people are about their social reputations, the better the chances of success.

- **Noticeability.** The more noticeable is cheating on agreements, the better the chances of success. Noticeability is a function partly of how clearly defined are the resource boundaries, how near they are to users' residences, and how large is the group of users.

- **Relation between users and the state.** The less the state can or wishes to undermine locally based authorities and the less it can enforce private property rights effectively, the better the chances of success.

As the list implies, there can be no presumption that collective action will generally work—any more than there can be a presumption that private property or state regulation will generally work. My argument is only that (a) the propensity to descend into anarchy or destruction is neither as strong nor as general as mainstream collective action theory implies and (b) that where circumstances look promising for collective action government officials should treat this option as seriously as the other two.

The government can help these local systems by providing a legal framework and perhaps technical assistance. The legal framework should enable village organizations to obtain legally enforceable recognition of their identity and rights and to call upon the state as an enforcer of last resort (Korten, forthcoming). Obvious though it may sound, few governments in Asia have given much attention to this task, at least with respect to rural (as distinct from modern urban) organizations. If governments did more, their efforts would widen the range of situations in which locally based common property regimes could be expected to work.

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**Abstract**

When will villagers come together to supply themselves with goods and services that they all need but could not provide for themselves individually? Can locally based collective action be a viable way to manage common property resources? Many writers on collective action and common property are pessimistic about the ability of people who face problems with common property resources to organize sustainable patterns of use for themselves. Some writers favor privatization of the commons as the only viable solution; others, the imposition of state regulation. This article shows, with reference
to Mancur Olson's "logic of collective action," that the analytical basis for this pessimism is weak for the village-based use of common property resources. There can thus be no general presumption that collective action will fail in the management of common property resources, any more than there can be a general presumption that it will work. The article suggests that the chances of success through collective action depend on the characteristics of the resources, the user group, and group-state relations.

This article is based on a forthcoming book, Village Republics: Economic Conditions for Collective Action in South India, Cambridge University Press. I am grateful to Haris Binswanger, Richard Kimber, Ford Runge, and especially Elinor Ostrom for discussions on various points of the argument.

1. For references, see citations later in text.
2. It is not that Olson says or implies that the size of the collective net benefit is irrelevant; he simply does not give it much attention.
4. This argument is in line with some of the early writings in public choice theory, notably Buchanan and Tullock (1962) and Ostrom (1968). Later work in the public choice tradition has tended to focus too much on the issue of financial contributions.
   I have not discussed here the issue of group size. Olson's celebrated theorem, stated without qualification early in his book, is later restricted to large groups in a taxonomy of small, intermediate, and large. He says little about how to distinguish the three types of groups in practice, but he might argue that the groups under discussion here are intermediate groups and therefore outside the scope of his argument.
5. See also Ostrom (1985b), the starting point of my own formulation.

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