

Postconflict Infrastructure

Trends in Aid and Investment Flows

As war and civil strife subside, can governments turn to the private sector to restore basic services? Postconflict countries suffer from disproportionately low levels of private investment in infrastructure, with only small-scale service providers likely to emerge during and right after conflict. Larger investors are slow to enter, and when they do they focus almost exclusively on the easily secured and most profitable subsectors. Yet some countries have been able to couple aggressive reform and liberalized policies to attract infrastructure investments soon after conflict abates. What does their experience tell us?

Developing countries affected by conflict, particularly those that can be characterized as weak or nonfunctioning states, have been markedly less successful than others in attracting private investment in infrastructure.¹ These countries also face the greatest needs, because of the lack of investment during conflict and because of their low income levels—more than three-quarters of the nonfunctioning states are classified as low income. Thus while poor communities in all developing countries suffer from lack of access to infrastructure services, those in conflict-affected countries suffer disproportionately (table 1).

Despite the challenges these high-risk countries face in attracting significant, long-term private investment in infrastructure, private activity does occur. The patterns of this activity suggest policy approaches that could help expand pri-

vate participation in infrastructure in postconflict countries.²

The paradox of postconflict aid flows . . .

Aid tends to peak immediately after conflict (figure 1). As a country emerges from conflict and captures the attention of the international community, donors generally increase aid to support peace and begin reconstruction. Using aid effectively during the early postconflict years is extremely difficult, however. Within the first decade aid tends to initially spike, then to gradually decline. But during this initial period most postconflict countries face political and administrative constraints that limit their capacity to absorb this increased aid.

The constraints on absorptive capacity are especially severe for project aid. Setting up administrative, accounting, financial manage-

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This Note summarizes an
analysis from a paper by
Jordan Schwartz, Shelly
Hahn, and Ian Bannon
(2004). A companion
Note explores policy
options for postconflict
countries seeking to
attract private investment
in infrastructure
(Schwartz and Halkyard
2006).



Table Infrastructure services: indicators of access, use, and quality

| Infrastructure service | Sub-Saharan Africa | | | High-income countries |
|---|-----------------------------|--|--------------|-----------------------|
| | Conflict-affected countries | Non-conflict-affected countries ^a | South Africa | |
| Electricity (kilowatt-hours used per capita) | 96 | 384 ^b | 3,793 | 8,421 |
| Telecommunications (fixed and mobile lines per 1,000 people) | 19 | 67 | 410 | 1,283 |
| Roads (percentage paved) | 13 | 27 | 20 | 93 |
| Water (percentage of population with access to improved source) | 52 | 67 | 86 | 96 ^c |

Note: Data are for the most recent year available in the source. Averages weight each country equally.
 a. Excludes South Africa.
 b. Based on nine countries for which data were available.
 c. Based on data for Australia, the Republic of Korea, Spain, and the United Kingdom.
 Source: World Bank, World Development Indicators database (2003 edition).

ment, fiduciary, and procurement systems takes time, especially in countries where conflict has weakened institutions and human capacity. Immediately after conflict, countries can better absorb aid provided as direct budgetary support. But many donors face restrictions on providing such support or have governance concerns that dissuade them from doing so. So, for a post-conflict country needing substantial investments in infrastructure, aid-funded projects offer little relief in the initial postconflict phase.

To make matters worse, paradoxically aid begins to decline precipitously at just about the

time postconflict countries develop the capacity to efficiently absorb it. This is also precisely when such countries badly need infrastructure investments to sustain the initial postconflict growth spurt and help prevent a relapse into conflict.³ Research has shown that faster growth tends to reduce the risk of further conflict directly and cumulatively by raising income levels (Collier and others 2003).

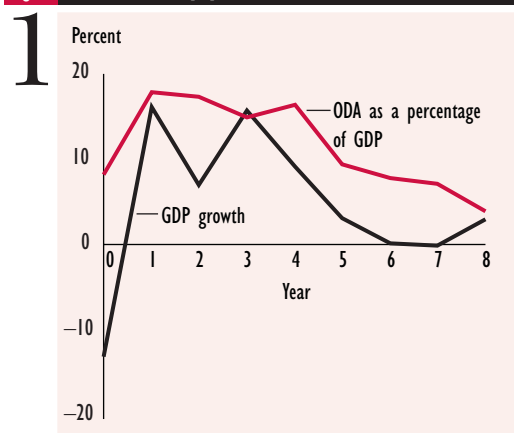
. . . and of postconflict investment flows

The initial period of high growth and large aid inflows in postconflict countries is paralleled by a period of inactivity in private investment in infrastructure: little such investment typically occurs for the first five years after conflict abates (figure 2). Large-scale investments in infrastructure tend to materialize only after post-conflict countries have maintained stability for a sufficient period—that is, at about the time that aid slows and growth declines. Again paradoxically, it is during those initial postconflict years that investments are most needed to provide basic services, reignite the local private sector, strengthen growth prospects, and lessen the likelihood of a return to conflict.

Small-scale private providers step in

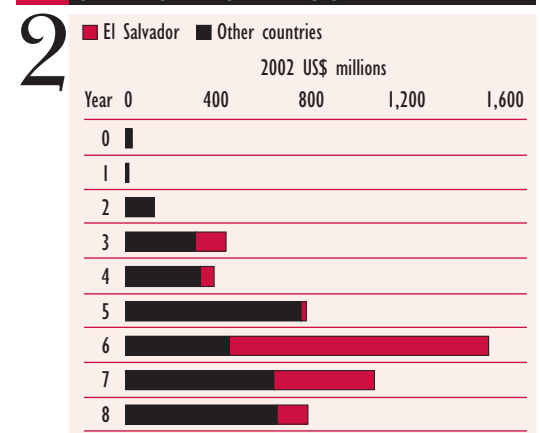
In contrast to large investors, small-scale private service providers are quick to set up shop after conflict abates—and sometimes even during conflict. In Cambodia hundreds of tiny private

Figure GDP growth and official development assistance by year after conflict



Note: Based on data for 10 countries that have emerged from war since 1990 and for which eight years of consistent data were available: Azerbaijan, Cambodia, El Salvador, Georgia, Lebanon, Mozambique, Nicaragua, Rwanda, Tajikistan, and the Republic of Yemen. Source: World Bank, World Development Indicators database (2003 edition).

Figure Investment in infrastructure projects with private participation by year after conflict



Note: Based on data for 10 countries that have emerged from war since 1990 and for which eight years of consistent data were available: Azerbaijan, Cambodia, El Salvador, Georgia, Lebanon, Mozambique, Nicaragua, Rwanda, Tajikistan, and the Republic of Yemen. Source: World Bank, Private Participation in Infrastructure (PPI) Project Database.

power networks established themselves throughout the countryside during and after the civil strife of the 1990s, effectively filling the void left by the nonfunctioning national utility. Similar stories can be found throughout postconflict countries. Indeed, about half the countries with significant small-scale private provision of water and electricity services are conflict affected (Kariuki and Schwartz 2005).

Diverging trends in investment levels

Developing countries affected by conflict have attracted far less large-scale private participation in infrastructure than other developing countries (table 2). Still, the trend in private participation in conflict-affected countries is similar to that for all developing countries (figure 3). That suggests that, as a whole, conflict-affected countries are subject to the same supply-side constraints as other developing countries.

But the trend for nonfunctioning conflict-affected states, which face even greater challenges in attracting investment, diverges dramatically from the general ups and downs of the overall trend. The likely reason is that the risks associated with investing in infrastructure in nonfunctioning states are so great that they deter all but a few investors, with a profile far different from that of the general community of infrastructure investors.

The sectoral sequencing of investment

Private investment in infrastructure in postconflict countries follows a clear sequence of sectors, with mobile telephony the only one likely to attract significant investment immediately after conflict (figure 4). All the postconflict countries analyzed had at least one private mobile operator investing in the country after it emerged from war. The willingness of mobile operators to invest in high-risk environments reflects the rapid cost recovery allowed by the sector's economics.

Beyond telecommunications, the attractiveness of infrastructure investments in postconflict countries drops precipitously (Schwartz, Hahn, and Bannon 2004). Power projects remain somewhat attractive, particularly in generation, where projects start to emerge three years after conflict and increase in frequency after five years. But

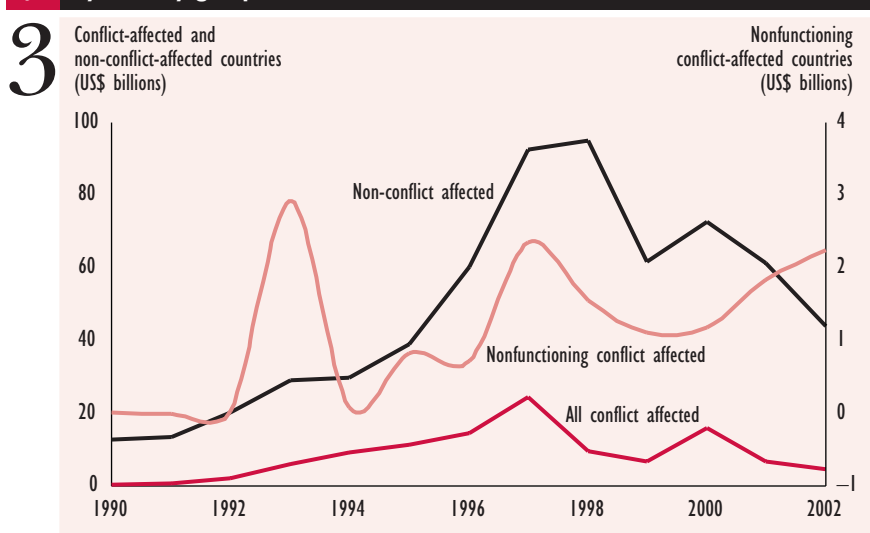
Table Investment in infrastructure projects with private participation by country and conflict status, 1990–2002

| Indicator | Non-conflict-affected countries (107) | All conflict-affected countries (31) | Nonfunctioning conflict-affected countries (25) |
|---|---------------------------------------|--------------------------------------|---|
| Average total investment in 1990–2002 (US\$ billions) | 5.9 | 3.6 | 0.6 |
| Average annual investment (US\$ millions) | 455 | 278 | 46 |
| Average annual investment as a percentage of GDP | 0.92 | 0.93 | 0.74 |
| Countries with no investment (percent) | 3 | 13 | 16 |

Note: Figures in parentheses are the number of countries in the category.

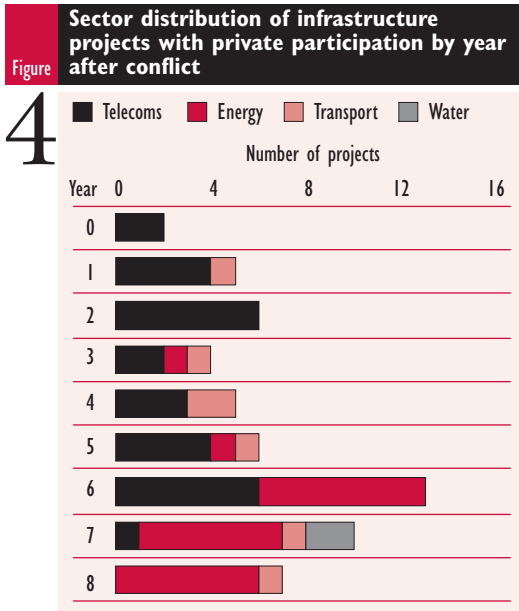
Source: Authors' calculations based on data from World Bank, Private Participation in Infrastructure (PPI) Project Database and World Development Indicators database (2003 edition).

Figure Trends in investment in infrastructure projects with private participation by country group, 1990–2002



Source: World Bank, Private Participation in Infrastructure (PPI) Project Database.

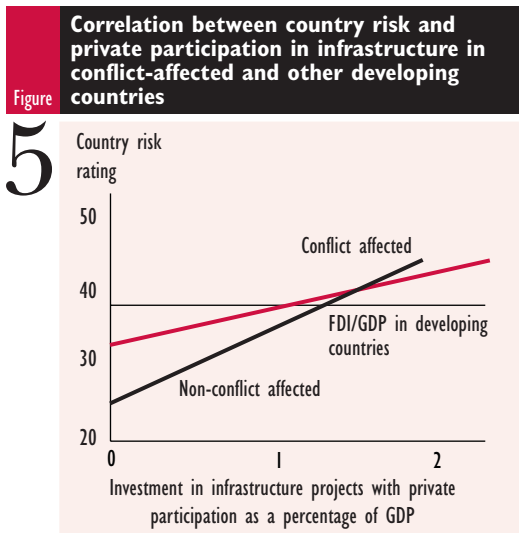
retail risks make privatizing distribution difficult, particularly in the early postconflict years. In transport most private investment goes to sea-ports, probably because container terminals offer the potential for earning hard currency and because bulk facilities can be incorporated into vertically integrated logistics systems. Investments in rail, roads, and airports normally occur only several years after conflict. The water and sanitation sector receives the least investment and is the last to receive foreign investment—though it often has the greatest needs.



Note: Based on data for 10 countries that have emerged from war since 1990 and for which eight years of consistent data were available: Azerbaijan, Cambodia, El Salvador, Georgia, Lebanon, Mozambique, Nicaragua, Rwanda, Tajikistan, and the Republic of Yemen. Source: World Bank, Private Participation in Infrastructure (PPI) Project Database.

The effect of country risk

While trends in general foreign direct investment (FDI) cannot be correlated with country risk ratings for developing countries, trends in private investment in infrastructure can be—for both conflict-affected and non-conflict-affected countries (figure 5). That suggests that investors in



Note: Excludes Mozambique and the Philippines from conflict-affected countries. Country risk ratings are by Euromoney. They range from 0 (lowest) to 100 (a perfect score). Source: Authors' analysis based on Euromoney country risk ratings and data from World Bank, Private Participation in Infrastructure (PPI) Project Database and World Development Indicators database (2003 edition).

infrastructure are more sensitive to perceptions of political and economic instability than those in other businesses, such as extractive or final assembly industries. Infrastructure investors also are more sensitive to improvements in country risk ratings in conflict-affected countries than in others; and these countries are rated riskier on average. That means that improving the underlying factors influencing political and economic risk ratings may lead to faster growth in infrastructure investment in conflict-affected countries than in other developing countries.

Notes

1. For a list of conflict-affected countries (broken down between functioning and weak or nonfunctioning states), see Schwartz, Hahn, and Bannon (2004, annex 1). Except where otherwise noted, data for conflict-affected countries in this Note refer to that set of countries.
2. For an in-depth discussion of policy options, see Schwartz and Halkyard (2006).
3. Collier and others (2003) estimate that a country emerging from a civil war typically faces a 44 percent chance of returning to conflict within five years.

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