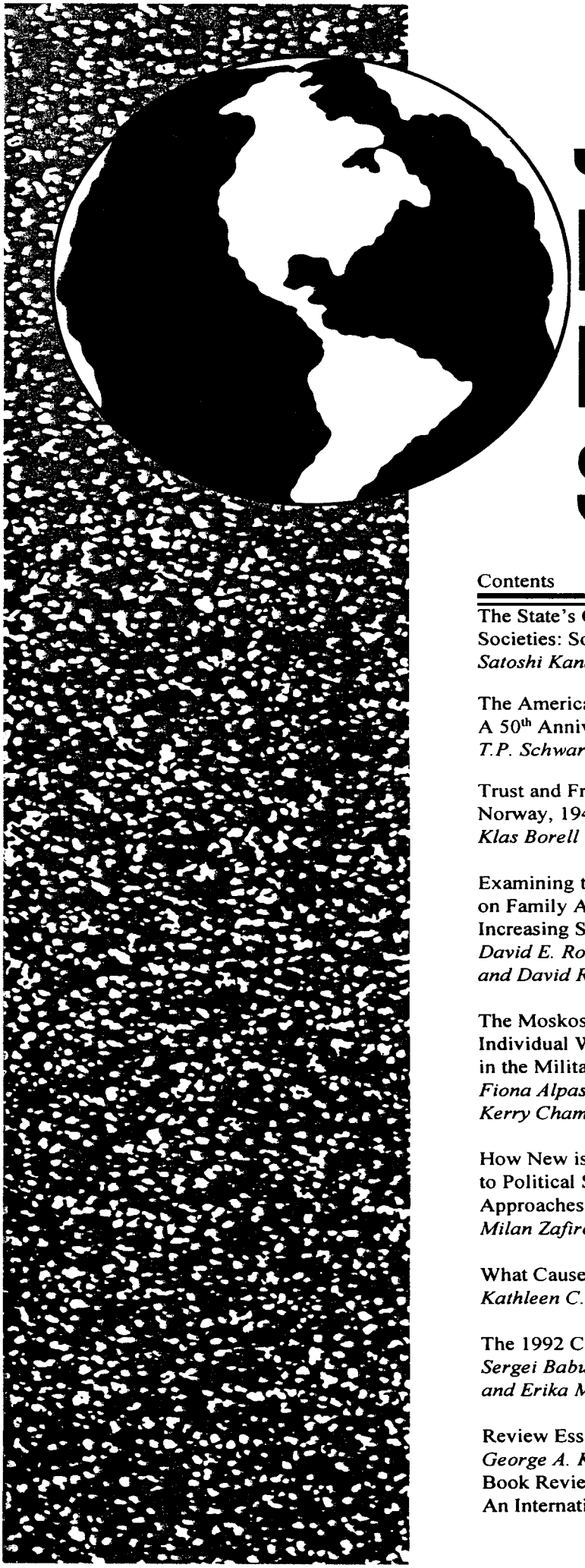

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WHAT CAUSED THE COLLAPSE OF APARTHEID?

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In a 1992 national referendum, white South Africans voted to make the transition to full democracy. What accounts for the willingness of the ruling whites to close down the forty-four-year old apartheid system and open up the political arena? Numerous explanations have been offered for the recent wave of democratic transitions. Some have argued that transitions such as those in the Soviet Union (1991), Brazil (1981), and Portugal (1974) were the result of social protest. Others have attributed the transition to the rise of an industrial labor force. While South African observers argued that domestic economic stagnation would force a political readjustment, others argued that globalization made democratic coalitions preferable and more plausible. Using South African data and a time-series path model, we investigate these alternative explanations of the South African transition. Our analysis suggests that constraints on the domestic labor market and international financial boycotts were the primary factors in the collapse of apartheid.

In a March 1992 "whites-only" national referendum, white South Africans voted to make the transition from an extremely limited version of democracy to a full one. Sixty-nine percent of whites (the turnout was estimated at over 77%) voted for Prime Minister de Klerk of the National party continue talks regarding a new constitution that would extend political rights to blacks (NYT 3/19/1992:A1). This was essentially an agreement to end the racial state. Before 1992, the apartheid system had undergone some liberalization (Lundahl et al. 1992): the African National Congress (ANC) and other political organizations had been legalized, the Group Areas Act and the Land Acts had been repealed, and there had been a breakdown of the color restrictions in most industries. The total abandonment of apartheid, however, only came in the election of 1994, when citizenship was extended to black South Africans.

What accounts for the willingness of the ruling white South Africans to close down the forty-four-year-old system and to expand civil society--that is, to extend full economic and political rights to the black South African majority? The dismantling of the racial state was accompanied by the dismantling of a restricted democratic regime. Does this transition to democracy in South Africa reflect anything of the recent waves of redemocratization--Southern Europe in the 1970s, Latin America in the 1980s, and Eastern Europe in the 1990s? Such questions motivate this paper and dictate the suitable theoretical perspectives.

Numerous theories offer explanations for the recent transitions to democratic rule. Some argue that the transitions to democracy were the result of social protest (Touraine et al., 1983; Mainwaring and Viola, 1984). Others attribute democratization to the rise of an industrial labor force and workers' struggles (Arrighi, 1985; Therborn, 1977). Some highlight external factors that produced democratic transitions, either by direct imposition of democracy or by an indirect effect of economic sanctions against a nondemocratic regime. Many South African observers, on the other hand, have argued that labor-market distortions would produce economic stagnation which would, in turn, force a transition.

The first fully democratic election in South Africa was held in 1994, only four years after de Klerk assumed the presidency and freed Nelson Mandela and only two years after the referendum. The transition to a full democracy certainly moved at high speed (Harris, 1995:567). Such rapid change suggests a preexisting willingness to accept the transition, a willingness that may have reflected the declining legitimacy of the apartheid regime. While the apartheid regime systematically lacked legitimacy among the black population, its legitimacy ebbed and flowed for the white population. Because the final collapse of apartheid resulted from a negotiated transition rather than a violent overthrow, we have focused primarily on the declining support among whites. After documenting the declining white support, we consider factors that might have contributed to that decline. We use qualitative data to substantiate the argument that diminished legitimacy led to regime transition, and quantitative data to analyze the factors that affected legitimacy.

REGIME LEGITIMACY AND TRANSFORMATION: THE DECLINE OF WHITE SUPPORT

Opinion polls taken in South Africa revealed general pessimism. In 1981, 47% of the white population thought that unemployment would increase in the next year (Hastings and Hastings, 1982: 644). In 1984, over 52% thought that the world would be a worse place for them to live in 10 years (Hastings and Hastings, 1985:746-747). In 1990, only 21% of the white population thought that they were better off compared with the past, whereas 46% thought they were worse off (Harris, 1995). A voter commented in a 1992 exit poll, "We have to think of our economy, sport and the rest of it. I can't see any other way. We must go forward now" (NYT, 3/18/92:A10). A poll published by the Johannesburg Star reported that 80% of an all-race sample opposed sanctions and 75% opposed disinvestment. What accounts for the decline in the feeling of well-being? What accounts for people's willingness to pull the plug on apartheid? The malaise appears to have accompanied the decline in per-capita income, and for many, that was a direct result of government actions. If we stopped here in our explanation, we would be guilty of what Dollery calls "the rather *passe* apartheid analogy" (1989, 397), namely of assuming that the worsening of material living standards resulted in an altered utilitarian calculus on the part of the white electorate. For this reason we think it is important to discuss not only public opinion but also the attitudes of the economic elite.

Despite significant global noncompliance, the South African elite did suffer from anti-apartheid protests and economic sanctions. As a result, leaders first attempted economic reforms without altering the essence of apartheid. The 1985 refusal by foreign banks to roll over South Africa's loans was followed by modifications in the facade of apartheid, for example, the pass laws were scrapped and property rights were granted to blacks. Sanctions, however, forced Pretoria to pay a price for apartheid, persuading some of the need for more substantial reforms. Business leaders such as Henri de Villers, chairman of the Standard Bank, maintained that South Africa needed the world and should abandon its defiant stance. Other key business leaders such as Gavin W. Relly, managing director of the Anglo-American Corporation of South Africa (AACSA), also reached the conclusion that something needed to change and that simply grasping for a growth bubble under a command economy was insufficient (NYT 11/13/88:A1-2).

In 1988, three years after the 1985 debt crisis, South Africa registered its first balance-of-payments deficit. Bankers reluctantly called for more austere economic policies. While such policies would help the deficit by discouraging imports, they would also risk alienating voters before upcoming municipal elections. Leaders expressed concern about the effect of an economic crisis on the legitimacy of the government. The sanctions and corporate disinvestment split the white community, sparked disagreements among businessmen and economists, and divided the black community. Economic solvency had been inextricably bound to apartheid and its caretaker government. The remedy was clear. As Mr. De Lick, head of the South African Reserve Bank put it, "Economic recovery required political changes that would appease overseas critics sufficiently for capital to start flowing back" (NYT, 6/4/89: E2). The crisis required a political solution.

This dissension within the capitalist class upset the ruling coalition: "Cracks began to appear in the white power bloc as business leaders despaired of seeing reforms implemented and repression failed, and [all the] while the white working class was losing its privileged position in the National party" (Hanlon, 1990:141). In 1982, for example, the Conservative party broke from the Afrikaner Nationalist party and it, in turn, became irrevocably divided (Lundahl, 1992; Kotze 1998:218). Splits included those that opposed apartheid as well as those who wanted a tightening of the apartheid state. In the 1984 election, the number of seats in the House of Assembly captured by the Nationalist party's dropped to 68%, the lowest since 1961. In the 1989 election

they dropped further down to 56%. The testimonies suggest that citizens as well as businessmen recognized the intimate connections among apartheid, the international sanctions, and their economic well-being. These opinions allow us to tie together the loss of regime legitimacy and its collapse.

Why did white citizens withdraw their support from apartheid? "Allegiance to any political system exists insofar as it guarantees the persistence of...a certain social, normally socioeconomic, order" or to the extent that it relies on citizens' loyalty to a process (such as democracy) in and of itself (Linz, 1978:11). Linz argues that governments fail when they score low in efficacy and effectiveness. Efficacy refers to a regime's capacity to find solutions to basic problems such as the maintenance of civil order, personal security, conflicts. Effectiveness refers to the capacity to implement those policies formulated by the state. When lacking, "this process leads from the unsolvable problem to the loss of power, the power vacuum, and ultimately to the transfer of power" (Linz, 1978:50). In the South African case, we think that the inability to resolve the economic crisis while maintaining apartheid contributed to the perceived inefficacy and ineffectiveness of the regime, and to the eventual withdrawal of legitimacy from the apartheid system.

To claim that white opposition was a sufficient condition would, of course, be unwarranted. White dissent was not new: it was a constant companion of apartheid. Even at the moment of apartheid's installation in 1948, the United party disagreed with aspects of the Nationalist's party platform. While there are no data which would allow us to plot the forty-six-year trajectory of white support for apartheid, we sense that the recent opposition was more decisive. Such narratives are biased, however, because of their ex post facto nature. Given the knowledge of apartheid's collapse, such narratives privilege those attitudes that precede it by, say, ten years over those from twenty or thirty years before. Recognizing the necessary but not sufficient aspect of "any white opposition," we consider it an intervening factor and search for factors which contributed to the decline of white support. In the sections below, we use the general "transition-to-democracy" scholarship and the South African literature to derive four hypotheses. These and a number of control variables make up our model of the collapse of apartheid. We group the literature (and the hypotheses) by their economic and sociopolitical contributions.

THE ECONOMIC CONTRIBUTIONS TO THE COLLAPSE OF APARTHEID

The White Labor Supply. A long-standing South African scholarship posits that a democratic transition would be the eventual result of economic stagnation and domestic economic crisis. From a standard economic perspective, it is clear that when the quantity of qualified labor is insufficient, industry and growth will suffer. Racial discrimination is one element that can

affect the quantity of qualified labor: "If discrimination leads to misallocations of labor and causes blacks and women not to invest in human capital, output is being lost" (Fischer and Dornbusch, 1983:352). Likewise, economists argue that the processes of industrialization and competitive labor markets are fundamentally hostile to discrimination or the use of racial categories (Wright, 1986:177). This theory would predict the downfall of apartheid in the following fashion: racial segregation maintained by law prevents the emergence of a national labor market, and this, in turn, puts a brake on economic development. Certain fractions of capital would suffer the consequences and oppose restrictive legislation such as color bars. For South Africa this essentially amounts to asking why early limited resistance to a color bar later came to be the more generally embraced position.

South African commentators predicted that the apartheid system would cease to be an engine of growth and instead turn into an obstacle (Jones and Muller, 1992; Lundahl et al., 1992; Swainson, 1990). Historically, South Africa's growth had been fueled by the apartheid labor system: "The discovery of diamonds in 1867 and gold in 1886 constituted the beginning of a century of growth...that was among the fastest in the world" (Lundahl et al., 1992:293). Until at least World War II, mining growth (particularly in gold) was built upon an unlimited supply of cheap unskilled labor (Burawoy, 1981:295). The need for skilled labor rose after World War II when the manufacturing sector displaced mining in contributions to the GDP. Skilled labor, however, remained the monopoly of white workers. This meant that eventually the manufacturing sector faced an inadequate supply of skilled labor and increased labor costs. Shortages of skilled labor were an unintended consequence of the apartheid system, where racial principles supplanted market ones. In the past, two solutions--importing workers and whittling away at the color bar--had been used. Each was exhausted, and employers expressed concern about the insufficiency of artisans and apprentices to service modern industry (Swainson, 1990:228).

For some time, skilled labor shortages had been offset by training unskilled whites migrating from rural areas, and by encouraging white emigration from other countries. In 1960, an immigration council was established to recruit and assist immigrants with their passage. The AACSA even maintained a recruitment office for engineers in England. European migrants accounted for 25-40% of annual increases in higher and middle-level human resources until the mid 1980s. However, the Soweto uprising and the new requirement that foreign nationals participate in the military slowed these migratory flows. By 1986, South Africa had recorded its largest net migration loss since World War II (Swainson, 1990: 229-230).

A potential solution to the skilled-labor shortage problem rested with nonwhites. Business leaders believed that the only way to obtain the necessary stable, skilled workforce to staff a technologically sophisticated mining and manufacturing industry was to upgrade the townships, invest in education, and give a modicum of political rights. In the interim, employers designed anti-apartheid innovations that would allow Africans to do the work technically reserved for whites. One such innovation was to subdivide a given task formerly carried out by whites, leaving a skilled and better-paying part for whites and a less-skilled and lower paying part for blacks: "Even the armed forces...had to begin recruiting non-whites in the early 1970" (Lundahl, 1992 :314-316). Nevertheless, such encroachments across the apartheid labor line were insufficient to redress the labor shortages, and the business community expressed a desire for race-free employment practices. "The South African Employers' Consultative Committee on Labor Affairs, which represented ten large employer bodies...undertook in 1977 to strive constantly for the elimination of discrimination based on race or colour from all aspects of employment practice" (Jones, 1992:293).

By 1990, apartheid was an anachronism that prevented the economy from maintaining its former growth rate. In 1960 the white labor force expanded 2%, while the economy was growing around 5%. To achieve a growth rate of 4.5% per annum in the 1980s, 42,500 skilled workers and technicians would have been needed each year, but training was going to provide only 12,000 (Lundahl, 1992:315). The apartheid-generated skilled-labor bottleneck was exacerbated by two trends: the development of more technologically advanced industries (capital goods sector) and the movement of skilled whites out of manufacturing into the service sector. The reality of contemporary South Africa was that apartheid-driven decisions contradicted labor-market decisions. As Anthony Marx puts it, the South African state was constrained more by "entrenched political interests than by control of capital" (1992, 23).

Two other unintended consequences of the apartheid labor system are identifiable: 1) the diminished purchasing power of the masses and 2) a more costly white labor force. The purchasing power of the masses, like the shortage of skilled labor, was not historically a problem. However, the import-substitution industrialization growth model of the 1950s was contingent upon a domestic market with adequate purchasing power, yet apartheid denied Africans that purchasing power. The black South African share of personal income rose from 19% in 1970 to 29% in 1980--still quite small for such a large percentage of the population. In the mid-1970s, black Africans owned a total of 210,000 cars, while 300,000 were sold annually in South Africa (Seidman 1994, 81). The white consumer community, because of its small size, was incapable of driving economic growth. Second, the color bar system, which was intended to prevent black Africans from holding jobs intended for whites, created a more expensive labor force that could not be cheapened through an increase in the labor supply.

Many agree that by the mid-1970s South Africa had begun to suffer from "the structural constraints posed by apartheid, with its requirements of duplicate administrations, additional military and police expenditures, restrictions on the growth of domestic markets and skilled labor among blacks, and inefficient investment to offset the oil and arms embargoes" (Marx, 1992:61). While the GDP per-capita grew by an average of 3.4% between 1961and 1970, it was growing by an average of .2% between 1979 and 1988: "the steam has gone out of the South African growth machine....The need for change is great if per-capita income is not to embark on a steady downward trend"(Lundahl, 1992:294).

The historically functional apartheid system had become dysfunctional. The economic system fashioned since the beginning of European colonization had institutionalized a number of contradictions that now were instrumental in dampening growth. Unfortunately no "labor-shortage" measure is available to us over time. As a proxy for the "protected labor-market" we use "percent white of the non-agricultural labor force." The size and nature of the industrial labor force increase with industrialization, but if racial principles had not dominated labor-market ones, we should have seen a decline in the percentage white. Thus, this persistence in the percent of white labor implies a bottleneck that, we hypothesize, has a negative effect on growth.

Foreign Economic Sanctions. Stepan (1986) includes externally monitored installation among his paths to redemocratization. External installations range from the post-World War II imposition of democracy on Japan and Western Germany to economic sanctions aimed at defeating authoritarian regimes.. Members of the international community maintained that South African rulers would only end apartheid when they saw no other alternative. Trade and investment embargoes were the weapon of choice against racial discrimination. Without embargoes, it was thought, South Africa would pursue a reformist option--conceding to the black community some socioeconomic gains but no political rights.

Evaluations of the impact of international embargoes range from a positive assessment ("the economic sanctions imposed by the international community played a role in this transition"(Rodman, 1994)), to a negative (it only had an impact on limited objectives, e.g., improved wages and trade union rights (Lundahl,1992)), and created a backlash among the white electorate, who turned toward ultra-right-wing parties in the 1987 general election (Lipton, 1989:338). Some of the disagreement over the impact of sanctions reflects the gap between the theory of sanctions and their half-hearted application, and some reflects the differential effects that embargoes would have had on different

sectors of the economy: the effects on trade, for example, differ from those on financial flows.

The mixed effects of trade embargoes are captured in Crawford's account of the arms embargo (1998). The UN Security Council's mandatory arms embargo of 1977 most likely contributed to South Africa's failures in its Angolan campaign, particularly in 1987 and 1988, when military equipment shortages became grave (Crown, 1990: 168). The arms embargo prevented South Africa from modernizing its air force and weakened its navy almost to the point of collapse. At the same time, the unintended consequence of the arms boycott was the promotion of a state arms import-substitution industry (Armscor) which not only was able to fill part of the arms gap, but by 1986 was a driving force in the economy. This example conforms to the general economic wisdom that "sanctions...cause a reallocation of production towards the import-competing sector" (Cooper 1989, 20). Many argue that, in general, export embargoes could have had only a limited effect. The country never experienced export-led growth; instead, exports were a consequence of growth. There are, in short, different perspectives on the success of the trade embargo.

Investment embargoes and disinvestment campaigns were destined to have a more pronounced effect. The South African economy was dependent upon foreign capital inflows to finance the excess of investment over savings and to balance its current account (Jones, 1992:212,222). South Africa was a net importer of capital, in part owing to the capital hungry nature of mining. Conditions also had been favorable for investors: "A policy of import substitution, attractive profits from mineral resources, low wages and high profitability during the apartheid boom period encouraged high levels of direct foreign investment" (B.Kahn, 1991:62). While we cannot to sort out their relative weights, the international sanctions campaign and domestic political instability both discouraged foreign capital flows. This follows a global pattern in which executives count political instability right behind market potential in their decisions on foreign investment. Schneider and Frey found that, even when controlling for factors such as GNP per-capita, balance of payments, and origins of bilateral and multilateral trade, political instability had a significant effect on rates of foreign direct investment (1985: 168). This literature suggests that we pay special attention to the role played by domestic protest in the intensification of the sanction/divestment campaign.

International sanctions affected foreign capital inflow. The actions of international anti-apartheid groups expanded in the 1980s, and by 1986 over twenty state governments and some institutional investors had been persuaded to divest their pension funds of stocks from companies operating in South Africa (Rodman, 1994:325). The sanctions affected not only the level but also the kind of investment. In 1970, direct investment constituted 68% of total foreign investment, but by 1984, direct investment had dropped to 39% (B.Kahn, 1991:78). It is unlikely that the sanctions would have escalated had it not been

for the domestic protest. B. Kahn (1991) and Padayachee (1991:94) attribute disinvestment to the economic crisis, political instability, and anti-apartheid lobbies. In 1977, the year following the Soweto uprising, not only was there a large outflow of capital but also no new loans were forthcoming, leading to an overall decline in investment. The turmoil of the 1980s brought net capital inflows to an end. The foreign investment climate had turned sour. In its 1982 edition, the publication *Business Environment Risk Information* advised businessmen against long term involvement in South Africa ranking it a "prohibitive" risk (SA Institute, 1983:51). As the rand depreciated, some business journals noted that MNCs were transferring funds out of the country. "By the end of 1987, some 40% of foreign subsidiaries operating in South Africa had disinvested" (B.Kahn, 1991:78) (albeit with their own variety of divestiture).[1] Domestic sources were unable to compensate for the loss. Net investment as a share of GDP fell from 17-18% in the 1970s to 3-4% in 1985-1989. Still, Lipton claims that these were victories for the anti-apartheid lobbies abroad, but without the intended impact in South Africa (1989: 340).

Many observers think that multinational banks inflicted the greatest damage on the South African economy in July 1985, when they called in the loans. After 1984, a year that was punctuated with massive protests and upheavals in townships and factories, South Africa's risk factor also became apparent to international bankers. Foreign inflows had typically made up the deficit in the balance of payments, but in 1985, overseas perceptions of the political events brought these inflows to an end. The growing political instability brought panic to the international financial community, which could no longer "discount" the enormous short-term debt. Initially Swiss, German, and Japanese banks filled the gaps left by reduced U.S. participation, but "the continuing violence in the townships, the disinvestment campaign, and the underlying weakness of the South African economy" reduced their participation (Padayachee, 1991:98-99). Restricted access to international investment and lending was an important source of pressure for change.

The international sanctions movement had hitched foreign capital flows to apartheid. Neither the state's fiscal crisis nor the general economic crisis could be solved without a modification of the apartheid system. By 1986, associations representing three-fourths of the business community were asking for reforms in the apartheid system, such as an end to the pass laws and forced relocation. The governor of the Reserve Bank lamented in 1987 that the lack of apartheid reforms affected business and consumer confidence. The president of

[1]In 1986, for example, when IBM "withdrew", it sold its South African subsidiary to the existing management, providing them with financial help to buy the company, and agreeing to continue all previous technology and supply agreements (Chataway, 1990:242).

the Chamber of Mines said, "I feel strongly that the counter to U.S. disinvestment threats lies in South Africa's internal constitutional and general reform process" (Catholic, 1990:144). These accounts of sanctions offer support for our hypothesis that external factors provoked the collapse of apartheid or, more specifically, that the loss of export earnings and of foreign investment and loans dampened growth to the extent that white South Africans (citizens and members of the business community) were forced to concede the unworkability of apartheid. We test the argument about external sanctions by looking at the "real" value of merchandise exported from South Africa and the "real" value of foreign capital inflows into South Africa.

THE SOCIOPOLITICAL CONTRIBUTIONS TO THE COLLAPSE OF APARTHEID

Domestic Social Protest. Dalton and Juechler argue that "Social movements have repeatedly acted as a force for social and political change" (1990:6). Social protests can deal a deadly blow to nondemocratic regimes, either by violently overthrowing the state apparatus (a revolution) or by slowly creating a legitimacy and/or fiscal crisis for the ruling government. But, since most nondemocratic regimes employ military force to thwart the emergence of civil society, can social movements really play a crucial role in overthrowing nondemocratic regimes?

Outright claims for the emancipation of civil society from nondemocratic regimes (be they Eastern European or Latin American) by grassroots social movements are rare. Touraine's assertion that Solidarity brought about the democratic transition in Poland comes closest to this model (1983:173). His claim is disputed by Misztal and Misztal, who argue that movements in Poland did not result in permanent and institutionalized changes in the democratization and liberalization of the system (1988:97). Their weaker claim is that Solidarity contributed to the creation of a political culture which later gave birth to democracy.

Stepan uses the concept of "society-led" regime transition to describe a transition resulting from "diffuse protests by grassroots organizations, massive but uncoordinated general strikes, and...general withdrawal of support for the government" (1986:78). He holds that society-led upheavals by themselves are virtually incapable of leading to redemocratization but are, nevertheless, often a crucial, or indispensable component. He cites Greece in 1973, Argentina in 1969, and Peru in 1977 as evidence. Mainwaring and Viola, in a similarly tentative fashion, assert that new social movements in Brazil and Argentina "have been significant" in the democratic gains over the military and authoritarian regimes (1984:17). Social movements scholars posit a causal mechanism which at best can be described as "contributory." This is

exemplified in Tarrow's summary: "Few would deny that popular pressure helped to convince elites in Eastern Europe to give up the ghost" (1994:171).

Organized political protest in South Africa dates from 1912, when leaders of the black community responded to a 1911 bill to prohibit black landownership outside set reserves and to regulate black South African employment. During the four-and-a-half decades of apartheid, black South Africans–who bore the full weight of apartheid--waged a continuous battle against that regime. Opposition was organized by a number of groups such as the African National Congress (ANC), the South African Communist party, and the United Democratic Front (UDF)--an alliance of more than 600 organized anti-apartheid protest groups. The ANC trained thousands of exiles to carry out sabotage missions and incite unrest aimed at rendering the townships ungovernable. Some of the better publicized protests include: Sharpeville in 1960, the Soweto uprising in 1976 (in which authorities killed an estimated 1,000 people), student boycotts in 1984, and a rent strike in Soweto in 1986. These boycotts, stayaways and violent protests peaked in 1986 and led to the imposition of a state of emergency (Jones, 1992:298).

The opposition death count was high. At least 2,500 black South Africans were killed in political violence between September 1984 and December 1986 (Brooks et al., 1986:4). And between 1987 and 1991, 5,000 blacks died in bloody clashes with police, army, or rival black groups such as the government-sponsored Inkatha party (Charney, 1991:2). Anthony Marx concludes that the impact of social movements on the democratic transition was greatest after 1979, when the emphasis of the opposition movement shifted from ideological realignment and unity to action (1992). Rather than the unorganized outbursts of the early years, after 1987 more than one-third of Soweto residents belonged to a union or community organization. General strikes in local areas demonstrated the level of organization achieved in townships combining community, student, and union groups.

The government responded with repression. In 1976 the government banned outdoor political meetings; in 1984 and 1985, the government, in response to nationwide uprisings, sent troops into the townships and declared a state of emergency (Van Heerden, 1990:200). In July of 1985, the banning of outdoor political meetings in townships was extended to funerals for victims of civil unrest. As a result of this unrest, the average daily prison population in December 1985 rose to 113,792--more than ten times the per-capita prison population of the United States (Brooks, 1986:4). Still, the government's prisons, prohibitions, and states of emergency were unable to silence the opposition.

Civil unrest contributed to the state's fiscal difficulties. The maintenance and defense of apartheid created voracious bureaucratic and

military apparatuses. Such state expenditures jeopardized the funding on black education which had been undertaken to address the needs of business and industry. In 1965 South Africa's military expenditures absorbed 3.0% of its GNP, in 1978 the number had risen to 4.2% (this compared with a global median of 2.7% and 3.0%, respectively) (Taylor and Jodice, 1983:26). Government defense expenses were principally to suppress low-grade guerrilla activities and, after Portugal granted independence to Angola and Mozambique in 1975, to undermine the socialist movements in neighboring African countries. The South African Police increased from 35,000 in the early 1980s to 115,000 in 1993, and the budget of the South African Defence Force rose by a factor of ten between 1960 and 1985, (albeit declining in real terms during the succeeding de Klerk rule) (Howe, 1994).

Government expenditures began rising in 1960, consuming 33.81% of the GDP by 1980. Rising apartheid-driven expenditures forced the government to reduce the share of national income that went to white civil servants--the main beneficiaries of apartheid--and to reduce the amount of government investment in national savings. The fiscal crisis led President Botha, as early as 1988, to introduce a much reduced government budget, including wage freezes for public-sector employees and a privatization of some parastatal firms. The high costs of apartheid converted South Africa into a high-tax country: "A 4% sales tax introduced in 1978 had by 1989 risen to 13 percent" (Jones, 1992:234). At the same time, income taxes were increased and middle income earners were subject to a marginal tax rate of 40 %--higher than in North America, Japan, and Britain. In conclusion, protest activity exacerbated the fiscal crisis, which in turn created discontent among apartheid's supporters.

Lacking longitudinal protest data, we use the annual average prison population as an approximation. (The data was published by the South African Institute of Race Relations.) Such a measure would not be applicable to all countries, since arrests and prison size respond to much more than the volume of protest. Determinants of prison size might well include: size of the police force, negotiations between the opposition and the government, and presence of international human rights observers. However, given the absence of data which satisfy our needs for systematic over-time analysis, we make the assumption that the rise in social protest activity led to a rise in the prison population. By using rates of change, we hope to capture the imprisonment associated with the ebbs and flows of the political confrontation. Political prisoners clearly differ from common criminals, but in a society where a majority of the population is denied citizenship, the distinction between these two can easily blur, as the following report reveals. In the negotiated prisoner-release program that began in September 1990, 933 political prisoners were released by 30 April 1991. The ANC claimed that there were still some 5,000 political prisoners, while President de Klerk claimed that there were fewer that 200 (SA Institute, 1991-1992:65). Treating prison population as a surrogate for

social protest, we hypothesize that rises in prison population will have a negative effect and contribute to an interest in abandoning apartheid.

Working-class Confrontations. Numerous scholars highlight a growing industrial labor force as the chief factor in the expansion of democracy. Therborn argues that the creation of free labor markets unleashes struggles which culminate in an extended democracy (1977). Arrighi, in his analysis of the semiperipheral states of Italy and Portugal, argues that the balance between labor and the state was transformed over the years as modern, large-scale industries developed (1985). The growth of the labor force was accompanied by a resurgence of labor movements, which the authoritarian regimes found more difficult to contain. Such bottom-up pressure pushed elites toward accepting a democratic transition. This argument is not redundant with that in the social movement literature, because it identifies different causes, dynamics, and agents of democratic transition. These authors argue that new industrial concentrations create the basis for working-class strength and mobilization, and it is the working classes which spearhead democracy.

The history of the South African political regime in the post-World War II period can be described using Arrighi's model of the interwar regimes in Southern Europe. Obviously, the South African regime differs from Europe in that apartheid was principally a racial state; nevertheless, it had a class agenda such as that described by Arrighi. Like Italy and Portugal, South Africa had a state that not only suppressed liberal democracy and class conflict but also constrained the market economy. Apartheid labor legislation may have initially contributed to capital accumulation, but it also restricted labor mobility across economic sectors and across space. What this literature suggests is that economic changes and ensuing labor-force changes posed a challenge to the political system.

The South African industrial sector grew significantly between 1930 and 1960. After 1960, manufacturing expanded at a faster rate than the overall economy. Manufacturing employment doubled between 1960 and 1975. Some of the new employment came from the auto industry, which, after 1961, was promoted through a series of domestic content laws. These new industrial concentrations opened up new possibilities for working class conflict. Strikes, which started in Durban and spread throughout the country, reflected a growing dissatisfaction with wages, rising prices, and lack of housing. Such unrest resulted in the 1973 legislation which legalized strikes. Seidman also identifies 1973 as the crucial turning point for another reason. The oil crisis of 1973 led the South African government to promote the production of capital goods. This phase of industrialization gave birth to a new capital-goods working class and a new unionism (one which she calls a social-movement unionism) (1994:174). In

the 1980s, strikes, stayaways, boycotts, factory occupations, and other forms of protest spread throughout the country (Beittel, 1995:91).

To measure the degree of working-class confrontation, we use the number of man-days lost by nonwhites either involved in strikes or unable to work as a result of work stoppages. We hypothesize that days lost will have a negative effect on GDP per-capita and that the rising labor struggles which accompanied the new industrial order contributed to the willingness to abandon apartheid.

RESEARCH DESIGN

Designing an empirical model. The four theories presented above are all eminently reasonable, fervently argued by numerous scholars, and empirically supported. We presented detailed discussion of the South African case to demonstrate the plausibility of the four bivariate relationships. Most of these interpretations, however, are simply presented by their advocates and do not endeavor to falsify alternative interpretations. (One exception to this is the acknowledged joint effect of international boycotts and domestic protest [e.g., Dollery, 1989; Lipton, 1989]). We approached this project with two goals in mind: first, to appraise the relative contributions of the four factors (social protest, working class confrontation, foreign sanctions, and domestic economic crisis) to the collapse of apartheid; and second, to determine the causal paths by which the sociopolitical factors might have contributed to the collapse of apartheid.

Measuring the collapse of apartheid. Given our analytical goals, we needed a dependent variable which would allow us to use multivariate time-series regression models. We needed a measure of the "willingness to abandon apartheid." Recorded support for various political parties and/or attitudinal surveys of regime support (such as those cited in the introduction) suffice to give a flavor of the legitimacy crisis but do not meet the requirements for a systematic, over-time analysis. Lacking such attitudinal data, we constructed our models with a surrogate–"change in per-capita income"[2]--as the dependent variable. We defend this substitution on theoretical, empirical, and normative grounds. Theoretically, "economic crisis" is the intervening mechanism in all the transition theories described above. Whether it was the rising cost of social control in response to social protest or the negative effects of a white skilled-labor bottleneck, these accounts explain the collapse of apartheid by invoking "economic crisis" as an intervening process. Empirically, the testimonies quoted in our introduction suggest that there were two perceived linkages: 1) at the macro level, between the persistence of apartheid and the lack of economic

[2]We use GDP rather than GNP because we want to capture the per-capita value derived from foreign owned enterprises operating in South Africa. The bulk of the literature on South African follows this convention.

well-being, and 2) at the micro level, between experienced declines in well-being and the withdrawal of legitimacy from the apartheid regime. These testimonies, sampled from the national debates of the time, imply that the perception of a drop in the per-capita national income convinced both white citizens and the business community that apartheid was no longer viable.

Obviously, declining GDP per-capita does not universally generate citizen withdrawal of legitimacy from a government. However, we think that the qualitative data support the claim that it was a crucial factor. Finally, such substitutions regarding the dependent variable are precedented. H. A. Kahn, in modeling the effects of trade sanctions on production, employment, distribution and growth, assumes that the economic effects will have political ones which affect government policies (1991:26).

We know that readers will share our concern about the trade off which accompanies our attempt to measure the legitimacy of a political regime with a twenty-five-year series of GDP per-capita data. On one hand, we gain the ability to investigate empirically the collapse of apartheid in a way which the descriptive narratives are less able to do. On the other hand, we have to acknowledge that we do not have a direct measurement of the regime's legitimacy.

Control variables. Percentage change in GDP per-capita is our dependent variable. Although we are using this as an approximation of a condition that destroys regime legitimacy, we cannot disregard the other components of standard growth models. Our compromise in this regard is to use a path model in which the first level includes economic factors and adds a control for domestic investment.

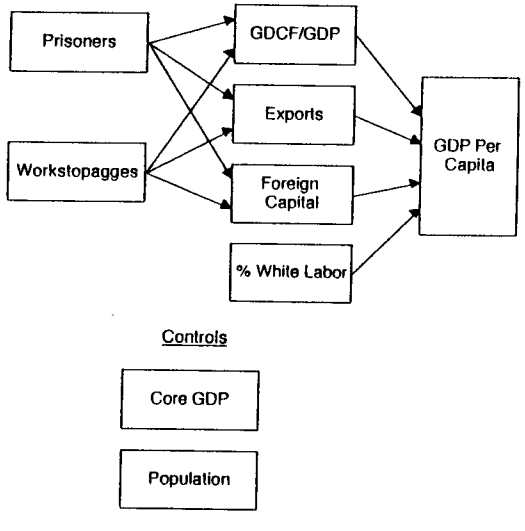
Another critical control variable is the economic well-being of core nations. Before one can attribute the drop in the GDP to factors specific to South African (be they internal or external), one must consider the possibility that the drop is simply a reflection of global trends. Lundahl, for one, thinks that it wasn't the sluggish growth in exports alone that curtailed the growth rate of the South African GDP (1992:309-311). It could well be that when the Western industrialized economies experienced rapid growth, South Africa experienced expansion, and when they experienced declines, exports from South Africa were down and foreign flows were up. In other words, during a downturn, core nations simultaneously reduce their demands for foreign goods (e.g., minerals from South Africa) and look to South Africa for cheaper labor costs. Invoking global factors, the South African Reserve Bank reported that the depressed world economy had contributed to the decline in global prices in 1980 and 1981 and that the severe world recession also created stagnant conditions in the international markets for South African exports, including diamonds, platinum, iron ore, chrome, manganese, maize, and sugar. To control

for these influential global dynamics, we add percent change in the average growth rates of twenty-three industrialized countries to our model.

Other control variables include percent change in population, the denominator of the dependent variable (GDPpc) lagged one year, and outlier years as dummy variables where they are required.

The model. Figure 1 presents our amalgamation of the theories. The methodological companion of classical hypothesis competition (our first objective) is a full regression model (in our case, a multivariate time-series model). Because it combines factors from a standard economic growth model with the exogenous sociopolitical factors into a full regression model, it is not the best choice for examining the two goals that we have identified. Our discomfort with the basic regression model led us to utilize a path model that allocates the factors in a manner that better depicts the dynamics suggested by the literature. We have grouped the economic factors together and placed them in the first stage, leaving the sociopolitical factors for the second.

Figure 1. Path Diagram



We regress percent change in GDP per-capita on percent change in the economic factors at time t and on percent change in sociopolitical factors at time t - 1. In the second stage, we regress the changes in those economic factors on

the sociopolitical ones. This gives us the components for computing the total, direct, and indirect effects. The dependent variable and all independent variables are transformed into percent change, and so we will compare effects[3]. Data for this analysis come from South African official statistics, the IMF, the U.N. and the *Survey of Race Relations*. Detail on measures and sources is provided in Appendix A.

Ideally, we would use data that cover the period from 1948 to 1992. That period goes from the ascendency of the Nationalist party in 1948 until the 1992 referendum which foreshadowed the end of apartheid. Owing to missing data, we are forced to scale down our data set to the 1964-1988 period. While it appears that we have missed six years (from 1988 to 1994), in reality, we are short only two years. In 1990, two years after our data series ends, initial pacts among the contending parties, such as the Groote Schuur Minute and the Pretoria Minute, had already been advanced (Kotze, 1998:215), followed by the white-only referendum in 1992.

The economic bases of GDP per-capita. In this stage we include foreign economic sanctions (foreign capital inflows and exports), domestic economic crisis (white labor supply), and the controls (domestic capital formation, core growth, and population growth). In this stage, the sociopolitical factors also are included as control variables along with the denominator of the dependent variable, lagged one year. The models are corrected for autocorrelation and contain outliers as dummy variables when necessary. The full model is:

% change in GDP per-capita =
% change in gross domestic capital formation (t)
+ % change in exports (t)
+ % change in foreign capital inflows (t)
+ % change in % white of non-agricultural labor force (t)
+ % change in prison population (t - 1)
+ % change in nonwhite days lost to strikes (t - 1)
+ % change in GDP of 23 industrialized nations (t - 1)
+ % change in population (t - 1)
+ GDP per-capita (t -1)

[3]Since we are working not with a sample, but instead with a population of the years before the collapse of apartheid in South Africa, we do not report standard errors. Standard errors serve to indicate the generalizability of findings to a population, but we are working with a population. It would have been preferable to generate the path coefficients with simultaneous equations; however, we lacked sufficient degrees of freedom and had to estimate the models with sequential equations.

The sociopolitical bases of the economic inputs to GDPpc. Can we say anything about how the political factors influence the economic ones and whether their total effects (operating through the economic model) are greater than their direct effects? To answer this question, we move to the second stage, in which we regress the independent variables from stage one on the two exogenous sociopolitical variables: prison population and work stoppages. The models are:

% change in gross domestic capital formation =
+ % change in prison population (t - 1)
+ % change in nonwhite days lost to strikes (t - 1)
+ % change in GDP of 23 industrialized nations (t - 1)
+ % change in population (t - 1)
+ % change in exports
+ % change in foreign capital inflows
+ % change in % white of nonagricultural labor force (t)
+ gross domestic capital formation (t - 1)
+ 1968
+ 1987

% change in exports =
[same model as above with appropriate modification]
+ 1985

% change in foreign capital inflows =
[same model as above with appropriate modification]
+ 1974
+ 1984

RESULTS

Regression analysis. What does the data analysis suggest about the collapse of apartheid? We began asking about the relative contribution of four factors to the collapse of apartheid. The findings are taken from the full regression model, in which we regressed GDP per-capita on all our variables (Table 1). For this case, the direct effects and the multivariate unstandardized coefficients are one and the same. The white-labor-supply hypothesis receives the greatest support--this variable has the largest effect in the predicted direction. The data support the hypothesis about economic sanctions: the effects are large and in the predicted direction for foreign capital inflows, and small for exports. The domestic-social-protest hypothesis can be rejected: the effect is modest, and it is in the opposite direction of that predicted. And, finally, the effect of working-class conflict appears extremely small. We discuss each of these in more detail.

The white labor supply has a negative effect on GDPpc, supporting our hypothesis that a shortage of skilled labor would inhibit growth. The coefficient

does not allow us to sort out the mechanisms by which the labor market affected growth but two have been suggested by the literature. First, as discussed above, apartheid militated against the wholesale use of skilled black labor to fuel the growing capital-goods economy. Second, to the extent that one group monopolizes labor positions, employers are unable to bid down wages by drawing from a larger labor pool of skilled workers. From either perspective, the apartheid-constrained labor market (a larger percentage of whites in skilled jobs) would have exerted an upward pressure on production costs and have had negative consequences for growth. Our findings lend support to the role of the "skilled-labor supply" in creating a crisis for the apartheid system.

Our second hypothesis about foreign economic sanctions, particularly the capital boycotts, also receives support. These findings mirror observations by those who claim that while the South Africa was never driven by exports, it did have a capital-hungry economy[4].

In the third hypothesis we suggested that the collapse of apartheid was the result of social protest. Although the collapse was not the direct outcome of a violent overthrow, we hypothesized that domestic social protest would contribute to the withdrawal of (white) legitimacy from the government. The hypothesis receives no support from this data. Rises in prison population were not associated with a drop in the growth rates of GDPpc; on the contrary, increases in the prison population had a moderately positive effect. And, finally, the effects of the labor variable--days lost to strikes–are so small that they give little support to the notion that working-class confrontation led to the collapse of apartheid.

On balance, these last two findings appear puzzling and disagree with the conventional accounts of the role of the opposition in bringing down apartheid. Could the social protest and working-class confrontations really have been as superfluous to the collapse of apartheid as this analysis suggests? Our summary to this point has been based only on the direct effects. Our second objective was to look at the different pathways through which sociopolitical factors such as social protest and working class confrontation might produce indirect effects.

[4]For many economies, this predominance of foreign investment over domestic investment would appear strange. Because South Africa was dependent upon foreign capital, anti-apartheid pressure, at home and abroad, encouraged capital boycotts and capital flight. From 1986 to 1988, $5 billion left the country as banks and corporations pulled out. The government blamed the falling productivity of industry and the drop in the growth rate on the need to export large chunks of capital to repay interest on foreign debts and on its inability to borrow new capital (Economist, 11/5/88:76).

Table 1. UNSTANDARDIZED REGRESSION COEFFICIENTS FOR GDPPC REGRESSED ON ALL VARIABLES.

Independent Variables	GDP per-capita
Economic Stage	
Domestic Investment	.1041
Exports	.0348
Foreign Capital Flows	.1218
White Labor	-.2421
Sociopolitical Stage	
Prison	.0478
Work stoppages	-.0009
Controls	
Population	-.7732
Core Growth	-.3369
R^2	.8284

Note: All variables are expressed as percentage change; hence we compare the size of effect. We do not report significance levels since we are working with a population (of years) rather than a sample, and the computation of indirect and total effects uses all coefficients regardless of their level of significance. The models are run with a time-series regression which corrects for first-order autocorrelation.

Findings from the path analysis. Following Figure 1, we regress each of the economic variables (domestic investment, foreign capital inflows, and exports) on the two sociopolitical factors. These regressions (Table 2) provide the second component (the indirect effects) of the total effects. Indirect effects are calculated by multiplying the coefficients found along each substantively

relevant path. The total effects (for prison population and work stoppages) are calculated by summing direct and indirect effects through all paths. Appendix B lists all of these effects. Three observations can be made straightaway. First, even the total effects of prison population and work stoppages are not as great as the direct effects of white labor or foreign capital flows. Second, the total effects on GDPpc of prison population and on work stoppages are greater than their respective direct effects (seventh versus tenth in the ranking for prison population, and fourteenth versus seventeenth for work stoppages). Third, overall, prison population has an effect ten times that of work stoppages.

Of all the calculated effects (Table 3), the largest coefficient (-1.5202) is obtained when we regress South African exports on prison population. Prison population has the predicted effect; as the size of the prison population increases, the value of exports declines. For each 1% rise in the prison population, exports suffered a drop of 1.5%. This could be considered a victory for domestic social protest, which managed to summon the attention of the international consumer community, resulting in a boycott of South African exports. The second coefficient contradicts our hypothesized effect: a 1% rise in prison population was associated with a .71% rise in foreign investment. In contrast to prison population, work stoppages have only a small positive effect on foreign investment and exports. The largest observed effect of work stoppages is its positive effect on our control variable, domestic investment, which in turn has a positive effect on growth. While this finding is consistent with the interpretation of the class conflict literature--that workers' struggles may speed the pace of technological innovations and, in turn, drive growth--it does little to support the argument that it contributed to the collapse of apartheid (Block, 1977:21).

From the multiple-regression analysis, we had already identified the white labor market and foreign investment as factors which mattered for growth of South Africa. By moving beyond multiple regression to path analysis, we have been able to determine that the domestic social protest-export link mattered. The path data also verify the stronger effect of the labor-market bottleneck on GDPpc (it is the largest of the direct effects on GDPpc and greater than any total effect: -.2421 in Table 3). We are still left, however, with the puzzle of how domestic social protest encouraged foreign investment.

DISCUSSION

By the 1970s, South Africa's growth momentum was lost, and by the 1980s the economy in general and the manufacturing sector in particular showed signs of stagnation. The investment rate dropped from being one of the highest in the world--22.3% in 1964 to 16% in 1991 (Lundahl, 1992:301; SA:1992). Should

Table 2. UNSTANDARDIZED REGRESSION COEFFICIENTS FOR THE ECONOMIC VARIABLES REGRESSED ON THE SOCIOPOLITICAL ONES.

Independent Variables	Domestic Invstmnt (1)	Exports (2)	Foreign Capital Flow (3)
Economic Stage			
Domestic Investment	--	-.0174	-.0185
Exports	-.4235	--	.6048
Foreign Capital Flows	.3801	.4098	--
White Labor	.2565	2.3701	-1.8483
Sociopolitical Stage			
Prison	-.0004	-1.5202	.7072
Work stoppages	.0712	.0141	.0132
Controls			
Population	-.9068	-3.7354	4.5097
Core Growth	-1.6503	4.3733	-4.9336
R^2	.7238	.7876	.8038

Note: All variables are expressed as percent change; hence we compare the size of effect. We do not report significance levels since we are working with a population (of years) rather than a sample, and the computation of indirect and total effects uses all coefficients regardless of their level of significance. The models are run with a time-series regression which corrects for first-order autocorrelation.
Outliers for Column 1 are 1968, 1987; Column 2, 1985; Column 3, 1974, 1984.

Table 3. TOP TWELVE STRONGEST EFFECTS RANKED BY MAGNITUDE

Unstandardized Regression Coefficients		Path Type	Path Description
1.	-1.5202	direct	Prison-Exports*
2.	.7072	direct	Prison-Foreign capital
3.	-.2421	direct	White-labor-GDPpc
4.	.1218	direct	Foreign Capital-GDPpc
5.	.1014	direct	GDCF-GDPpc
6.	.0861	indirect	Prison-Foreign Capital-GDPpc
7.	.0810	total	Prison-GDP
8.	.0712	direct	Work stoppages-GDCF
9.	-.0529	indirect	Prison-Exports-GDPpc
10.	.0478	direct	Prison-GDPpc
11.	.0348	direct	Exports-GDPpc
12.	.0141	direct	Exports-Work stoppages

Note: *Prison-Exports is the path which corresponds to exports regressed on prison population.

We have selected out those effects which have magnitudes at the second decimal or above and ranked them by size.

social movements be included among the contributory factors? While the foreign-capital coefficient might seem puzzling because it is the inverse of the export coefficient, it is not puzzling from the perspective of the dependency literature, which maintains that social tranquility encourages foreign investment and social unrest discourages it. Two points, one in reference to our measure and one in reference to the international community, can help us emphasize the different effects of social protest on the export and capital boycotts. First, perhaps prison population should be considered a measure of social control, not protest. Reinterpreting the findings in this light, we would argue that, as the South African government takes repressive actions against social disruption,

foreign capital inflows increase and exports decrease. Second, we might consider the different ways in which the diverse international communities of "importers of South African products" and of "investors in South Africa" would interpret the government's use of repression. To importers it could signal the level of social protest, but to investors, it could signal stability. Further, we might consider how these international actors would respond to the international human rights initiatives for a boycott of South Africa. Importing is a more visible and public activity than investing, especially portfolio investing. The international organizers of the boycott might have found that targeting merchandise purchases was easier than targeting capital investments. Unfortunately our data do not allow us to reflect on what may be important differences between these two international groups. Nevertheless, on balance, the joint effect of prisoners and export boycotters had a negative effect (-.059) on the GDPpc that was smaller than the effect of either prisons on foreign capital (.7072) or of foreign capital on GDPpc (.1218).

Who brought an end to apartheid? Our findings suggest that those factors responsible for the collapse of apartheid include (in order of importance): 1) domestic capitalists, whose growth was restricted by the artificially high-priced labor, 2) foreign capital investors, who saw disincentives to investing, and 3) domestic protesters and sympathetic international boycotters of South African products who took joint actions. If the opposition to apartheid was confined to domestic protest, apartheid might have endured even longer. Bloody and violent protesting had gone on, after all, for decades. It is also questionable whether the joint actions of protesters and international product boycotters could have done sufficient damage to the legitimacy of the apartheid regime were they not coterminous with the opposition of the first two.

What does this empirical glimpse at the South African case add to our understanding of the transitions to democracy? Historically, organized labor or workplace movements have played a highly visible role in bringing about full democracy, but we find little support for such an argument in the South African case. Regarding the social movement theories, we cannot improve on the lukewarm summaries offered in the introductory section. This regime was not brought down by protest; it was brought down by protest in concert with other factors. The "outside intervention" theory receives partial support. Export boycotts, however, would seem to have limited effect when operating either in a closed economy or without the joint participation of domestic elite opposition. The thirty-year U.S. boycott against Cuba offers an example of the inefficacy of such boycotts. Our data do offer support for foreign intervention when it is in the form of investment and loan boycotts. Foreign investment boycotts have historically been used to deliver a fatal blow to regimes, be they democratic or authoritarian, and this South African analysis does nothing to challenge that assertion.

The effect of the global economy is, at one and the same time, more diffuse and more significant. The transformations in the global economy made it difficult for South Africa to persist with the same economic organization, not just because of pressures in the form of boycotts but more generally because maintaining its place in the global economy required economic reorganization. Our account clearly privileges those explanatory factors such as the structural deformations that the apartheid system had engraved on the domestic economy. The collapse of apartheid owes much to the inability of South Africa to maintain its economic momentum in the new global order under the caretaker of the racial state.

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APPENDIX A: DESCRIPTION AND SOURCE OF VARIABLES

Variable	Description	Source
Sociopolitical		
Prison	Average annual prison population	Survey of Race Relations
Work stoppages	Number of man-days lost by nonwhites involved in strikes and not involved but were barred from working as a result of the strikes	South African Statistics
Economic		
Exports	Value of exported merchandise (gold excluded) [deflated]	South African Statistics
Foreign capital flow	Value of private foreign investment [deflated]	International Financial Statistics
GDPpc	GDP per-capita	South African Statistics
Domestic investment	Gross Domestic Capital Formation as percent of GDP	South African Statistics
White labor	White workers as percent of total nonagricultural work force	South African Statistics
Controls		
Core economy	Average growth of 22 OECD countries	International Financial Statistics Yearbook
Population	Extrapolated from census	South African Statistics

Appendix B: WORKSHEET SHOWING CALCULATED EFFECTS

	Dependent Variable	Independent Variable	Path	Effect
Direct Effects				
1.	GDP per-capita	domestic investment		.1041
2.	"	exports		.0348
3.	"	foreign capital flow		.1218
4.	"	white labor		-.2421
5.	"	prison		.0478
6.	"	work stoppages		-.0009
7.	Domestic investment	prison		-.0004
8.	"	work stoppages		.0712
9.	Exports	prison		-1.5202
10.	"	work stoppages		.0141
11.	Foreign capital	prison		.7072
12.	"	work stoppages		.0132
Indirect Effects				
13.	GDP per-capita	prison	domestic investment	-.000042
14.	"	prison	exports	-.052903
15.	"	prison	foreign capital	.086137
16.	"	work stoppages	domestic investment	.0074119
17.	"	work stoppages	exports	.0004907
18.	"	work stoppages	foreign capital	.0016078
Total Effects				
19.	GDP per-capita	prison	all	.080992
20.	GDP per-capita	work stoppages	all	.0086104

The direct effects are simply the regression coefficients from the time-series model. Indirect effects are calculated by multiplying the coefficients along the respective paths. The total effect is calculated by adding the direct effects to the sum of the indirect ones. (For example, the effect of prison on GDP per-capita is calculated by adding #5 + #13 + #14 + #15.)