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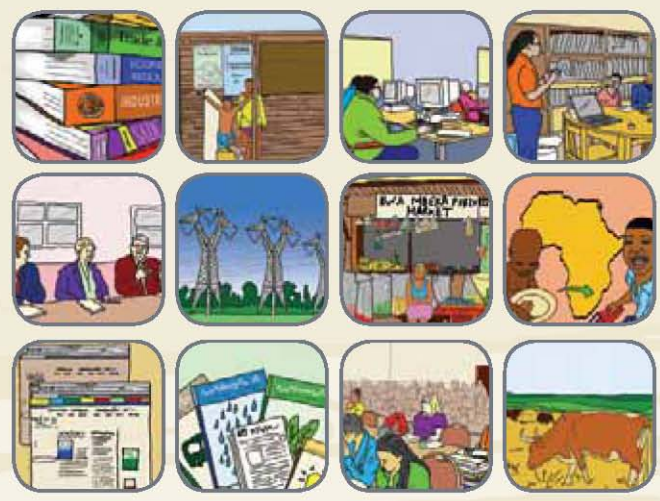
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South Africa's Developmental State Makeover

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December 2009



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South Africa's Developmental State Makeover

December 2009

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Introduction.....	2
Part I: Ten Features of the Development State (DS)	5
FEATURE #1: Thriftville or Squanderville?	5
FEATURE #2: Investment in Productive Capacity	6
FEATURE #3: Foreign Capital Inflow Bias.....	9
FEATURE #4: Currency Convertibility	12
FEATURE #5: Pro-Growth Monetary Policy	14
FEATURE #6: Dynamic Comparative Advantage?	15
FEATURE #7: Sectoral Strategies: Motor Vehicles	20
FEATURE #8: Technology Policy and Proprietary Knowledge-Based Assets	26
FEATURE #9: Regulatory State: Independent or Developmental?	30
FEATURE #10: The Bottom Line: Wages and Productivity	35
Part II: Policy Options for the Pragmatic	37
i) Over-exposure to speculative capital.....	39
ii) Exchange rate and foreign reserves	41
iii) Savings rate (government + households).....	42
iv) Allocation of capital	46
Part III: Conclusion	49
Annex A	54
References	55

Abstract

This paper highlights ten key features of the Developmental State (DS) growth model by contrasting economic and institutional trends between China (and East Asia more generally) and South Africa. In light of the recent (perhaps politically opportunistic) adoption of DS language to the South African policy discourse, the comparative analysis shows that the development trajectory underlying an East Asian DS deviates widely from the reality facing South Africa, and many other African countries today, in terms of emphasizing investments to 'catch-up' in productive and technological capacities in pursuit of dynamic comparative advantage on which rising real wages and living standards can be sustained.

Rather than accept these status quo policy conditions, this paper proposes the strategic sequencing of key policies to bring South Africa into closer approximation of a DS configuration through four main areas: 1) over-exposure to speculative capital flows; 2) exchange rate and foreign reserves; 3) national savings rate; and 4) the allocation of capital. Although such a strategy is not without risk, leading emerging economies appear increasingly willing to experiment with DS-type policies and objectives deemed strategic to their long-term development prospects. As such, and amidst a global rebalancing of economic power from the developed to the developing world, South African policy-makers face a rare opportunity to regain policy-space, strengthen institutions and revamp the country's developmental model.

¹ I am grateful to Manfred Bienefeld (School of Public Policy and Administration, Carleton University) for his valuable comments and suggestions, as well as those from TIPS colleagues, Ximena Gonzalez and Myriam Velia. Evans K. Chinembiri of ComMark also provided research assistance. Thank you also to the Walter & Duncan Gordon Foundation for financial support for this research through the Gordon Global Fellowships. The usual disclaimers apply. Email: daniel.poon@mail.mcgill.ca

Introduction

The incoming Zuma administration marks a political transition period for South Africa as the country's past growth performance is examined and the underlying policy framework is re-visited in the face of global economic crisis and slowdown. Under this fertile policy scenario, the concept of the '**developmental state**' (DS) has become a buzzword for certain government officials and political figures, indicating their predilection to use greater degrees of state intervention and industrial policy as a means of achieving wide ranging priority economic/social policy objectives such as: creating economic growth, decent jobs and reducing poverty levels; spurring rural development, and land reform; as well as improving health/education sectors and public service delivery, and cutting the incidence of crime and disease.

Informed by the African National Congress' (ANC) 2007 conference in Polokwane which established the subsequent election manifesto policy framework, Zuma asserted, "Key to achieving these priorities will be the building of an effective, developmental state." During this year's State of the Nation address, he further emphasized: "working with the people and supported by our public servants, we will build a developmental state, improve public services and strengthen democratic institutions." Other political forces like the Congress of South African Trade Unions (Cosatu) are increasing efforts to weigh in on the direction of government economic policy, as it seeks to tighten the reins over its representatives deployed in government. As Cosatu president Sdumo Dlamini alluded: "We take it that these leaders know the agenda of decent work and industrial policy. ... Anyone who moves far away [from the left agenda] will be punished."²

Given the difficulty of post-apartheid South African authorities in sustaining fast growth, job creation and investing in social change, signs of renewed thinking in economic and development policy discourse are most welcome, and, amid global economic turmoil, timely. By adopting the DS language the ANC has invoked historical developmental precedents primarily associated with the East Asia region (Japan, South Korea, Taiwan) (Ikpe 2008; Fine 2008), and more vividly witnessed in China's ongoing 'real-time' conduct of unorthodox reform and liberalization policy embarked upon since the late 1970s. Of all the regions of the world from which to draw policy lessons, the ANC and its partners have set its sights high in borrowing the DS language from the world's most successful developing area in the post-World War II era. (Rodrik 2006a; Woetzel 2004; Stiglitz 2001)

This paper will argue, however, that the policy fundamentals underlying the East Asian DS could not be farther from the developmental reality facing South Africa and African countries today. This may not be surprising given the confluence of widely different historical, cultural, geographical, etc. factors at play. Looking forward, perhaps more intriguing is to consider what a DS orientation would look like for today's South African economy and the incremental steps needed to bring it into closer approximation within the context of the post-1994 path of rapid market reform and liberalization already carried out (relative to East Asian experiences).

To be clear, this is not to suggest that South African policy-makers need only blindly transplant one-size-fits-all East Asian policy lessons and implement them in exactly the same way, as quickly as possible. Rather, this paper highlights certain key policy fundamentals and trends found in the East Asian DS models towards which South African decision-makers must pragmatically nudge the economy (using existing or reclaimed policy measures), if they want to achieve anything near the rapid broad-based developmental successes of East Asia. The

² Mail and Guardian (2008). "Zuma looks to 'effective, developmental state'", November 29. See, <http://www.mg.co.za/article/2008-11-29-zuma-looks-to-effective-development-state>; Zuma, Jacob (2009). State of the Nation Address, June 3. See, <http://www.info.gov.za/speeches/2009/09060310551001.htm> ; Letsoalo, Matuma (2009). "Cosatu plans a shadow Cabinet", *Mail and Guardian*, June 26. See, <http://www.mg.co.za/article/2009-06-27-cosatu-plans-a-shadow-cabinet>

practical and pragmatic sequencing of this 'new' development direction is imperative given that reversals in liberalization can spark adverse financial market responses such as sudden capital flight or outflows, sharp declines in currency and asset markets, which lead to serious repercussions for real economic activity. (Akyuz 2007:4-5)

Generally speaking, the overarching economic policy stance of countries, developed or developing, can be described in one of two ways. Below, Prestowitz stylizes the contrasting policy orientations of the United States and China; like a large majority of developing countries, South Africa more closely resembles the former case rather than the latter:

U.S. negotiators always assume that WTO-member countries are playing the same free-trade game as the United States. That game focuses on maximizing consumer welfare, it allows the dollar's value to float in response to currency markets, seeks market-based results as ends in themselves, has Americans saving nothing while they consume more than they produce, and preaches specialization of production based on what a country's resources enable it to do best while trading for the rest. As one top U.S. economist has said; "potato chips, computer chips. What's the difference? They're all chips."

In fact, this is not at all the game China, Japan, Korea, Ireland, Israel, Taiwan and many others are playing. Their focus is production and technological "catch-up," not consumption. They compel their citizens to save at very high levels, pursue export-led growth, foster development of target industries such as semiconductors, aim to accumulate large trade surpluses as a matter of national security, use markets as tools rather than as ends in themselves, and strive to change their resource endowment in order to achieve broader ranges of production and targeted economic structures. They see a big difference between computer chips and potato chips. (Prestowitz 2007)³

Under present circumstances, what would it take for South Africa to lay the foundations in shifting its 'game' away from a strict neoclassical economics policy stance and enhance its longer term developmental outlook? The crux of the question revolves around the government's selective adaptation of market institutions as tools rather than as ends in themselves to achieve broader nationally-determined developmental objectives and building production capacities in pursuit of a dynamic comparative advantage⁴ on which rising real wages and living standards (consumption) can be sustained (Memis and Montes 2008; Wade 2003; Potter 2003).

Put another way, chronic consumption in South Africa beyond the economy's productive means is a roadmap for continued dependence on foreign capital and ownership and ultimately, as Warren Buffett argued in the US case, a form of colonization "by purchase rather than by conquest" as a nation eventually ceases to be capital-owning and becomes simply a nation of wage earners.⁵

A snapshot of the conceptual DS pathway is depicted in Chart 1, as East Asian countries generate relatively higher industrial growth while sustaining a path towards higher wages in catching up to advanced industrialized economies. From a dynamic perspective, Japan, the

³ Prestowitz's inclusion of Ireland among those countries focused on 'catch-up' is at odds with Ireland's status as a prominent victim of the 2008-2009 financial and economic crisis when the country was hit by the collapse of a housing bubble that contracted GDP by a forecasted 7.8% in 2009 and a further 2.3% in 2010. Unemployment, meanwhile, has soared to 12.5%. [Brown, John Murray (2009). "Ireland says growth will return in 2011", *Financial Times*, October 7; Groom, Brian (2009). "Employment: Job losses – the third phase of the crisis", *Financial Times*, October 5.]

⁴ It is widely recognized that allocating resources according to comparative advantage can only ensure static efficiency gains; in no way guaranteeing dynamic efficiency growth, which is believed to dwarf static gains from trade (IMF 1994:27). See also: Arrunada and Vazquez (2006).

⁵ Buffett, Warren E. and Carol J. Loomis (2003). "America's growing trade deficit is selling the nation out from under us", *Fortune*, November 10. See,

http://money.cnn.com/magazines/fortune/fortune_archive/2003/11/10/352872/index.htm; Colvin, Geoff (2008).

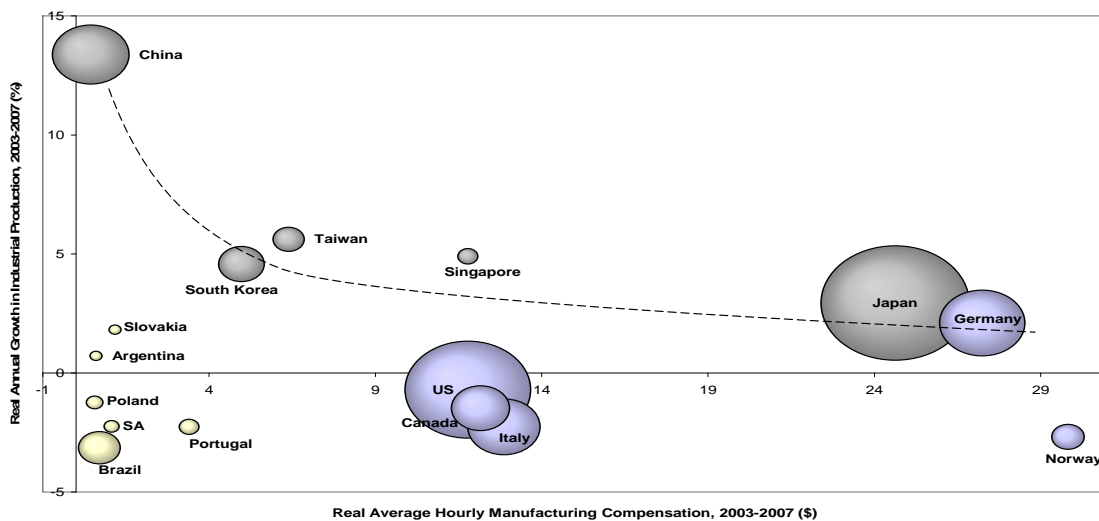
"America for Sale", *Fortune*, February 18. See,

http://money.cnn.com/2008/01/30/news/economy/Colvin_recession.fortune/index.htm

frontrunner of the DS model, today finds itself among the ranks of industrialized nations, such as Germany, and to a lesser extent, the US, Italy and Canada, which appear further along in the process of de-industrialization.⁶ 'Second-runners' such as South Korea, Taiwan (and Singapore) appear set along a similar developmental trajectory as continued higher rates of industrial growth provide the scope for possible wage increase. Having embarked upon reforms at a later stage, 'latecomer' China and its large labour pool remain at an early stage of the DS pathway. This is not surprising given China's hitherto low-value role in supply chains, primarily as a cheap-labour export platform, the global architecture and design of which remains dominated by non-Chinese firms (Lin and Wang 2008:27; Naughton 2004; Gilboy 2004; Van Assche 2006).

For South Africa, its predicament is not unlike that of other selected developing countries that have strayed significantly from the DS pathway. Low, if not negative, rates of industrial growth are even less likely to lead to wage increases, thus perhaps causing countries to gravitate in a corner of low industrial growth and low wages with little chance of escape.⁷

Chart 1. Towards a High Wage Economy: Developmental State 'Catch-Up'



Note: Size of bubbles denotes real industrial GDP in 2007 (excluding agriculture and services sectors).

Source: *Economist Intelligence Unit (EIU), US Bureau of Labor Statistics, Quantec, World Development Indicators.*

Part I of this paper presents ten key features of the DS model by contrasting economic and institutional trends between China and South Africa, over time.⁸ Used as a rough DS benchmark, this part aims to underscore the main traits of the DS model to lay the conceptual groundwork for **Part II** of the paper which explores a number of policy measures strategically crafted to ease critical developmental bottlenecks and push South African economic trends closer to those fitting

⁶ See: Freeman (2005); Feenstra and Hanson (1996); Freeman (1995); Slaughter (1995).

⁷ As the diagram only covers a limited time period, it is difficult to surmise trending directions particularly of the lower industrial growth countries, and the paper does not want to paint an excessively negative picture of all these countries.

⁸ Rather than compare all historical East Asian experiences to South Africa's development performance, this paper uses China as a rough proxy for the DS configuration. Besides saving time and space, China's more recent and ongoing DS orientation, as well as its growing international influence, makes analysis of its developmental processes a particular point of interest to policy-makers in addition to the comparative DS analysis provided in the paper for the South African context. For studies of China within the East Asian historical context, see: Lardy (2006), Hiratsuka (2005), Flassbeck (2005), Rumbaugh and Blancher (2004), Lall (2004), Gilboy (2004), Rodrik (2001). For studies more generally about the historical East and Southeast Asian developmental experience, see: Weiss (2005a); Hernandez (2004); Jomo (2001); Stiglitz (2001); Bruton (1998); Akyuz and Gore (1996); Singh (1996; 1995); World Bank (1993).

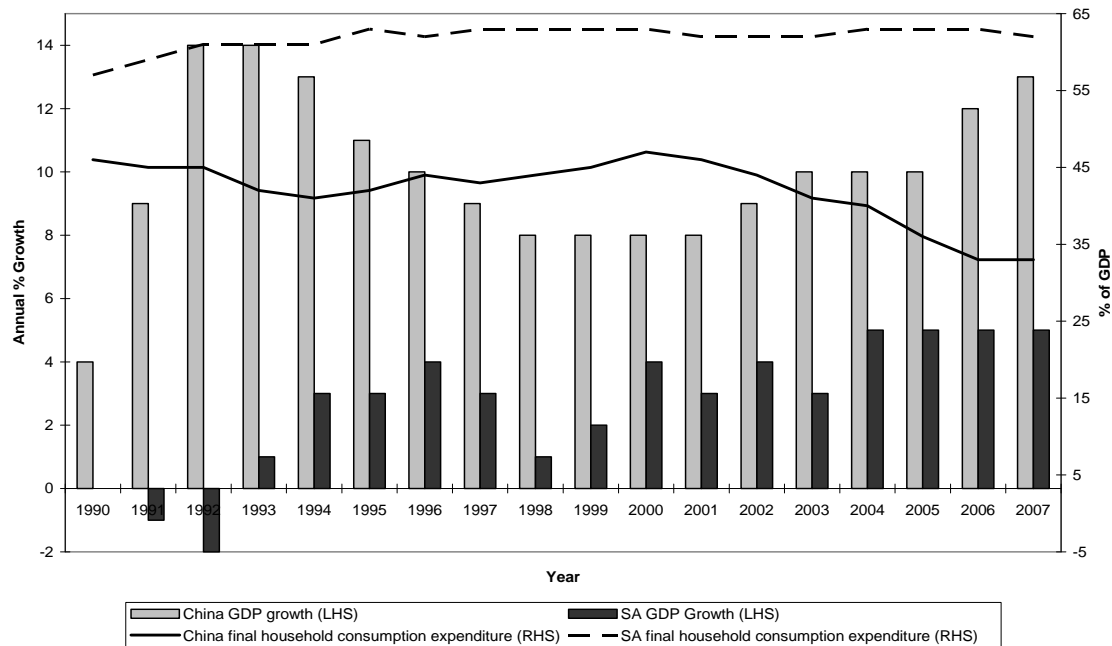
of a country and its people truly on the dynamic rise. **Part III** of the paper concludes with examples of DS-type frameworks and policies among other leading emerging market economies, namely India and Brazil, to highlight increasing willingness to experiment with such approaches amidst a more favourable international environment for less orthodox economic policies.

Part I: Ten Features of the Development State (DS)

This section of the report contrasts several empirical features of the Developmental State (DS) by contrasting trends in economic indicators between China and South Africa. Despite the recent (perhaps politically-charged) application of DS language to South Africa, this exercise is meant to highlight the divergent developmental trajectories facing these two countries: while China's economic trends have evolved to a point where they are largely self-reinforcing and convincingly aimed at production and technological 'catch-up', South Africa's trends remain largely in stasis and operating in a direction counter to a viable DS orientation.

FEATURE #1: Thriftville or Squanderville?

Figure 1. GDP Growth and Household Consumption, 1990-2007



Source: World Bank World Development Indicators (WDI).

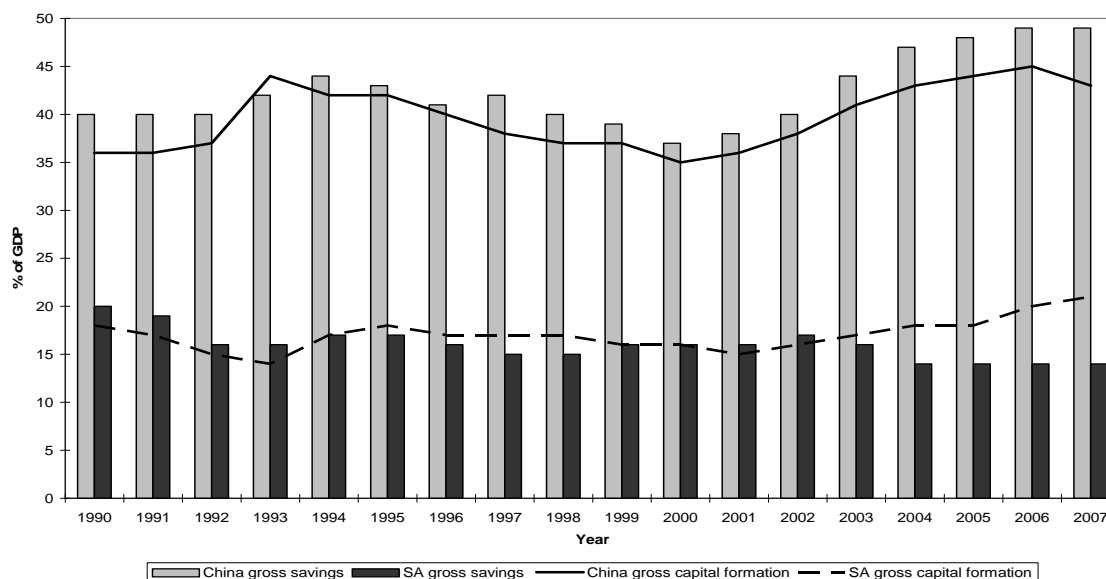
As seen in Figure 1, respective country trends in GDP growth and household consumption reveal some initial signs of the structural differences between Chinese and South African developmental trajectories. From 1990 to 2007, South African household consumption gradually rises from a level of 57% to 62% of GDP, underscoring the country's tendency to focus on consumption-led growth rather than production and investment-led growth. Importantly, increasing household consumption has not generally been funded by increasing incomes, but by a rising share of household debt as a percentage of disposable income. This figure has risen sharply in recent years, rising from a share of 50% to 80% from 2003 to 2008 (IMF 2008a:5). Compounding this relatively 'squanderville'-like scenario, South Africa has grown at a mild pace – averaging 2.7% (3.6%, post-apartheid) – thus straining the amount of domestic capital resources available for production and investment, as well as the rate of capital equipment replacement, technical progress and new product development.

In comparison, Chinese household consumption trends go the other direction, falling from 46% to 33% over the same period. China's 'thriftville' status is further bolstered by the fact that the country has experienced remarkably high rates of annual economic growth –averaging 10% annually – while household consumption trends have declined, thus further building domestic capital resources with which to finance rapid development. As for household debt accumulation, China's consumer finance market has grown at a rapid pace in recent years, albeit from a very low base. In 2007, for instance, the value of consumer credit reached just over 12% as a share of total RMB loans (Shen and Yan 2009).

In terms of total foreign debt, both countries foreign debt is held at moderate levels. For South Africa, foreign debt was \$35.2bn in 2007, only about 8% of GDP, but still representing 46.2% of exports of goods and services. This latter figure is already down substantially from the 1990s, when external debt accounted for 92.9% of exports in 1994. In China, external debt amounted to \$350.1bn in 2007, 10.1% of GDP or 28.7% of exports. In 1994, China's external debt was 8.9% of total exports. (EIU 2009; 2008; 1997; 1996)

FEATURE #2: Investment in Productive Capacity

Figure 2a. Gross Savings and Capital Formation, 1990-2007



Source: *Ibid.*

Gross savings and capital formation trends shown in Figure 2 further buttress the observations made above. Not surprisingly, given the relatively high rates of household consumption, South African gross savings rates, having fallen from 20% to 14% of GDP (over the same time period), are less than half of China's savings rates, which grew from 40% to 49% of GDP aided by a declining proportion of GDP going to household consumption.

Breaking down savings trends by institutional actor, South African national savings trends show government savings on the rise, while household and corporate savings decline. Between 1996 and 2007, private savings (household and corporate) exerted downward pressure on national savings. The fall in national savings by 1.8% of GDP was due to an 8.1% decrease in private savings that was partially offset by a 6.2% rise in government savings. Within private sector savings, corporate savings fell by 6% of GDP and household savings fell by 2.1%, albeit from a lower level. As the share of overall private savings has declined, the role of corporate vis-à-vis household savings has increased averaging about 84% of total private savings in the 1996-2007

period (16% for household savings), and its share reaching almost 90% in more recent years. (Eyraud 2009:12-4)

Low national savings rates have been coupled with low rates of gross capital formation in South Africa, thus limiting investment in productive assets such as factories, buildings, capital goods, roads, ports and other much needed infrastructure. For instance, between 1976 and 2002, annual public sector infrastructure investment fell from 8.1% to 2.6% of GDP (Kirsten and Davies 2008:8). By 2007, however, the share of gross capital formation has grown to 20% of GDP. This is mainly due to investments made by public corporations, starting in 2005, that boosted their contribution to real gross capital formation from a growth rate of 16% in 2005, to 18.3% in 2006, to 51.3% in 2007, mainly from capital expenditure on electricity and transport infrastructure related to capacity constraints for the former, and 2010 FIFA World Cup preparations for the latter. In 2008, growth in public corporations' real gross fixed capital formation was 30.5%, compared to 6.5% for private firms, and 9.7% for general government (no figures for households provided) (SARB 2007:16, 20; SARB 2009:9).

In a further push, in 2009, former Finance Minister unveiled a three-year government infrastructure spending plan totaling R787bn, R390bn of which was capital spending by state-owned enterprises. He further announced that the 2009 budget would contain an additional R6.4bn for public transport, roads and rail networks; R4.1bn for school buildings, clinics and other provincial infrastructure projects; and R5.3bn for municipal infrastructure and bulk water systems.⁹

Historically, the corporate sector has accounted for the bulk of gross fixed capital formation throughout the 1980s, 1990s, and 2000s. For instance, the average contribution to capital formation in the 1990s was: household, 25.5%; corporate, 89.3%; and general government, -14.4%. Between 2000 and 2006, the average contribution to capital formation was: household, 12.4%; corporate, 72.4%; and general government, 4.9%.

By contrast, China's household savings have historically been the largest contributor to national savings, representing roughly 20% of GDP. Enterprises, of which many of the largest remain state-owned enterprises, have also had an increasing contribution, from 10% of GDP in 1990 to 15% by 2002. After 2002, the share of corporate savings surpasses that of households, rising to 18% in 2003 as household savings dipped to around 16%. During this period, government savings remained stable, hovering in the 6-8% range of GDP. (Kuijs 2005:6) High household savings are seen as a result of China's lack of a social and employment security system, compelling households to save for future rainy days. Recent initiatives by government, for example, to ramp up a basic universal health care system by 2011¹⁰ and to bolster labour standards through a new labour law (effective January 2008) (GLS 2006; 2007; 2008) perhaps portend to a careful shift towards greater consumption-led growth and thus lower household savings rates.

On the investment side, enterprises have led the way with investment share ranging from 25-35% share of GDP over the 1990-2003 period. The contribution of household and government savings has remained stable within a range of 6-7% and 3-4% of GDP, respectively, over the same period (Kuijs 2005:6). Even though state directed investment has fallen from more than half to a third of all fixed asset investment since 2000, when investment expenditure by traditional state-owned enterprises (SOEs) and that of joint stock corporations (in which the government has a controlling interest) is combined, the total represents about half of the 40% share of GDP devoted to fixed

⁹ Venter, Irma (2009). "Infrastructure Push: Manuel unveils R787bn infrastructure plan", *Engineering News*, February 20-26.

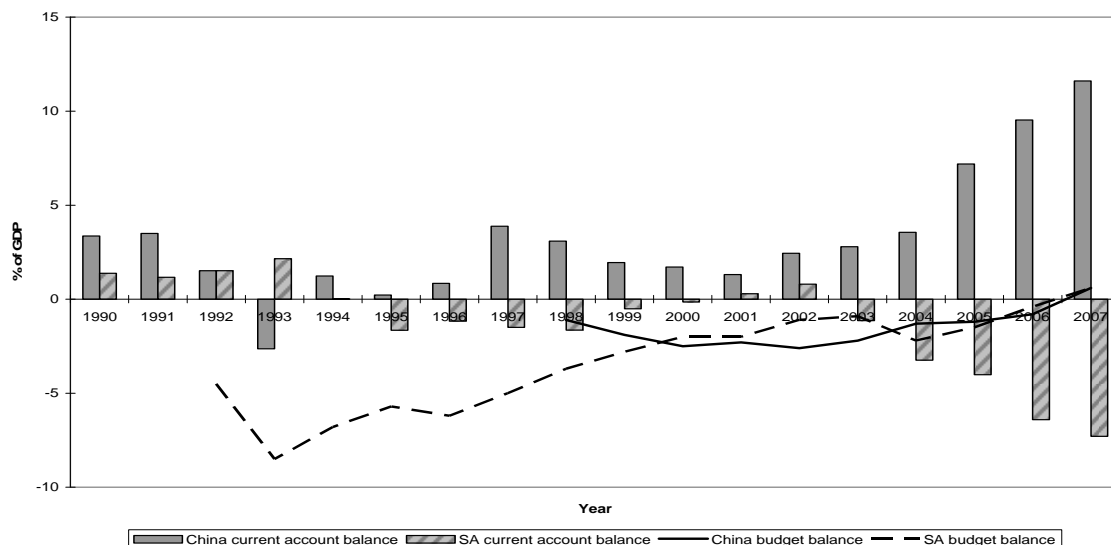
¹⁰ Neumann, Dan (2009). "New Chinese health care spending lauded as significant investment", *Inside US-China Trade*, February 4; Hillie, Kathrin (2009). "China moves to curb health costs", *Financial Times*, August 19; O'Neill, Jim (2009). "Crisis gives rise to optimism about China's prospects", *Financial Times*, April 22.

investment, thus allowing the central government a strong direct influence over the economy by ensuring that key inputs keep up with rapid growth (Naughton 2007).

Before the onset of economic crisis, China tended to invest in the rapid expansion of infrastructure – at roughly 10% of GDP – which has played a key factor in sustaining rapid growth (Lin and Wang 2008; Dollar 2008) and which sets China apart from other emerging market economies, such as India.¹¹ In response to economic crisis, infrastructure spending (including Sichuan earthquake reconstruction) represents an astonishing 72% of China’s stimulus package of RMB4,000bn. At the behest of government, in the first six months of 2009 Chinese bank loans totaled RMB7,400bn – three times the pace in the first half of 2008.¹² This intermediation mechanism between Chinese savers and borrowers is facilitated by China’s relatively bank-centered financial system where the ‘big four’ state-owned commercial banks (SCBs) still account for roughly 60% of all banking assets (Okazaki 2007; JEC 2006).

Conversely, these trends have generally (pre-crisis) raised criticisms of economic ‘overheating’ as high investment levels raise the risk of excess capacity particularly in state-owned capital-intensive sectors, which could provoke a downward spiral in prices, the subsequent build-up of non-performing loans and ultimately financial turbulence. (Lin and Wang 2008:24; Goldstein and Lardy 2004; Ma and Fung 2002)¹³

Figure 2b. Current Account and Public Finance Balance, 1990-2007



Source: Ibid.

Figure 2b confirms observations made from Figure 2, as current account balances are derived from the national savings-investment balance (S-I). In South Africa’s case, growing current account deficits occur as of 2004, growing from -3.2% of GDP to -7.3% in 2007. This matches with Figure 2, as South Africa’s gross capital formation rate accelerates in 2004, while the gross savings rate falls even lower. In China’s case, burgeoning current account surpluses occur in the early 2000s, rising from 2.4% of GDP in 2002 to 11.6% in 2007. As seen in Figure 2, national savings generally remains larger than gross capital formation, leaving current account surpluses

¹¹ Foo, Janis (2009). “China’s ‘sensible’ infrastructure spending”, *Far Eastern Economic Review*, February 17. See, <http://www.feer.com/special-content/china-economic-outlook-2009/chinas-sensible-infrastructure-spending>; Lamont, James (2009). “Infrastructure deficit chokes India”, *Financial Times*, March 17.

¹² Roach, Stephen (2009). “China’s consumers key to revival”, *Financial Times*, July 28.

¹³ Barboza, David (2009). “China faces delicate task of reining in bank lending”, *New York Times*, August 6. See, http://www.nytimes.com/2009/08/07/business/global/07yuan.html?_r=1&ref=global-home; Yu Yongding (2009). “China’s stimulus shows the problem of success”, *Financial Times*, August 25.

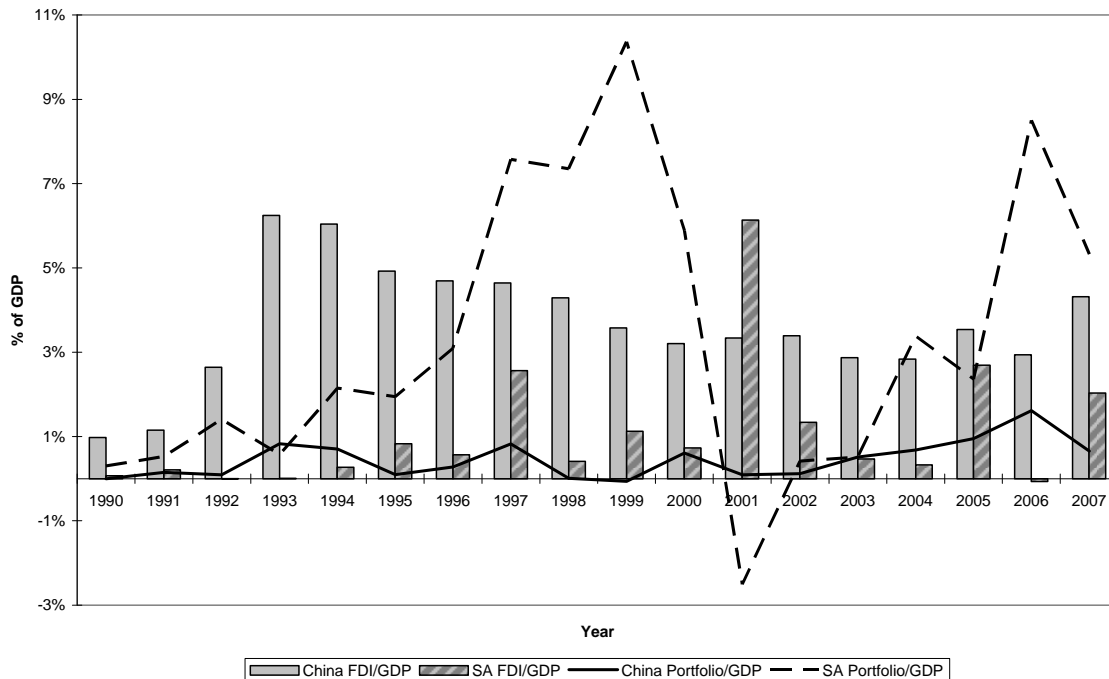
from 1990 to 2007, except in 1993. As of 2003, the savings-investment balance grows increasingly larger, thus resulting in enlarged current account surpluses.

As for public finances, these largely track government savings trends discussed above. South Africa's budget deficit, which registered -6.8% of GDP in 1994, was gradually reduced through both strengthened revenue collection measures and expenditure constraints. These were achieved mainly through a 1996 macroeconomic policy framework called the Growth, Employment and Redistribution (GEAR) strategy, which placed fiscal restraint at the fore of government priorities and stressed macroeconomic stability as a necessary condition for sustained development. Prior to the onset of economic crisis, by 2006-2007 the government budget was in surplus, which led major credit ratings agencies to upgrade South Africa's sovereign rating several times since the mid-1990s (OECD 2008:18-9, 23). However, the global economic crisis has taken its toll on economic activity, with official estimates of government revenue falling short R60bn in the 2009/2010 budget year.¹⁴

In China's case, although data is more limited, the government's budget has generally held steady at -1-3% of GDP. With the Asian crisis in the late 1990s, rather than succumb to pressures to devalue the RMB, China's government decided to apply counter-cyclical fiscal policy to boost demand in order to maintain growth and employment. This expanded the government's budget deficit to -2.6% of GDP in 2002, before it turned into surplus by 2007. Other fiscal measures included increased government investment in infrastructure rose by 38.9% in 1998, and by 56.5% in 1999 (Flasbeck 2005:31-3).

FEATURE #3: Foreign Capital Inflow Bias

Figure 3. FDI and Portfolio Inflows, 1990-2007



Source: IMF International Financial Statistics (IFS)

Figure 3 provides respective foreign direct investment (FDI) and portfolio investment flows, further revealing the divergent structural orientations between South Africa and China. In South Africa,

¹⁴ Hazelhurst, Ethel (2009). "Revenue could fall short of budget by R80bn – Roodt", *Pretoria News Business Report*, September 2.

capital inflows have generally consisted of mostly portfolio investments into areas with relatively high liquidity such as in securities and bonds, which is the reason why these types of flows are usually associated with volatile short-term speculative capital movements that are subject to sharp reversals (Prasad et al. 2003; Bhagwati 1998; Stiglitz 1994).

By March 1995, capital controls through the 'financial rand' mechanism (dual exchange rate system) were effectively abolished for non-residents and the rand became a convertible currency; some remaining light controls on residents' capital outflows notwithstanding (Cross 2005; Mohamed 2003; Bond 1999). Generally characterized as having a sophisticated and modern financial services sector that has been increasingly liberalized, rules on capital and money market securities transactions, including derivatives and other financial instruments, for purchase locally by nonresidents have largely been removed (and have not changed since at least 1997) (IMF 2008b:1301-2). In 2007, for instance, market capitalization as a share of GDP of the Johannesburg Stock Exchange (JSE) was 292.5% (WFE 2008:130)

As seen in Figure 3, while the volume of portfolio inflows has fluctuated, South Africa experienced two peak periods of inflows between 1990 and 2007. The first occurred in 1999 when portfolio inflows reached \$13.8bn; the second peak in 2006 when inflows hit \$21.9bn. By 2007, portfolio inflows totaled \$15.1bn about three times the volume of FDI, \$5.8bn. The role of FDI, which is seen as more stable longer-term investments in productive capacity, has ranged between 1-3% of GDP and largely overshadowed by portfolio inflows.

There were some exceptions, however. For instance in 2001, FDI accounted for 6.1% of GDP (\$7.27bn), the majority of which consisted of inflows from the buy-out of minority shareholders in De Beers mining company from the Anglo American Corporation (SARB 2001:22-3). More recently, in October 2007, a 20% equity stake in Standard Bank of South Africa was bought by China's Industrial and Commercial Bank of China (ICBC) for \$5.6bn. This resulted in a FDI inflow of R40.6bn in the first quarter of 2008, roughly equal to the entire FDI inflow amount recorded for 2007 (SARB 2008:28). In terms of government rules on FDI, restrictions are only imposed on FDI outflows, whereas FDI inflows have no such limitations whatsoever (going back at least to 1997), leaving wide discretion for foreign investors on the terms of FDI (IMF 2008b:1303)

In stark contrast, China's pattern of capital inflows represents a near mirror image of the South African scenario. Although not without some leakage, China has taken a hands-on capital controls policy approach in effectively attracting FDI over portfolio investments to improve the productive structure of the economy and tap foreign know-how. Thus, as current account convertibility occurred in 1996 prior to WTO accession in 2001, the capital account (inflow and outflow) has been loosened in a controlled and cautious process that has, up to this point, discriminated against short-term portfolio inflows (Ma and McCauley 2007:14; Yu 2009; Prasad and Wei 2005). Thus, while IMF calculations show that China has now roughly liberalized 80% of its capital account, rules on capital and money market securities transactions, including derivatives and other financial instruments, for purchase locally by nonresidents remain subject to detailed restrictions (IMF 2008b:314-6)

As seen in Figure 3, portfolio flows hover at around 1% of GDP, as FDI inflows took-off in the early 1990s. Despite the fact that both Shanghai and Shenzhen stock exchanges were established in the 1990s, China's capital markets remain relatively under-developed. For instance in 2005, stock market capitalization as a share of GDP was only 6% (JEC 2006).¹⁵ The roll-out of sophisticated financial products, such as short-selling, margin trading and financial futures are seen as important to help equities market mature beyond the boom-and-bust cycles of recent years, but Chinese authorities are also adamant at doing things at their own pace to ensure that risk is mitigated as much as possible.¹⁶

¹⁵ By 2007, market capitalization as a share of GDP for the Shanghai Stock Exchange was 112.6%, while the equivalent figure for the smaller Shenzhen Stock Exchange was 23.9%. (WFE 2008:130)

¹⁶ Waldmeir, Patti (2008). "March of liberalization to its own drum", *Financial Times*, November 21.

In 2003, China established the Qualified Foreign Institutional Investor (QFII) programme, a quota-system perceived as going beyond WTO commitments, which regulates foreign investor access to yuan-denominated securities in A-shares, treasuries, and corporate and convertible bonds. Initially given a \$10bn quota, the QFII currently represents less than 2% of domestic market capitalization, signifying Beijing's deliberate partial and measured opening of the securities market with particular attention to speculative 'hot flows' of foreign portfolio investment and possible threats of unwanted foreign takeovers. The programme is slated to expand its quota to \$30bn by 2014, however allocation and timing of quota approvals remains at the discretion of the regulator, China Securities Regulatory Commission (CSRC).¹⁷ (Howson 2007:167-9; OECD 2005:317)¹⁸

Starting in the early 1990s, FDI inflows to China leapt from \$11.2bn in 1992, to \$27.5bn in 1993, to \$44.2bn in 2001, to \$54.9 in 2004, and \$138.4bn in 2007. As of 1993, FDI inflows ranged within a 3-6% of GDP range, as the economy averaged annual 10% growth. In recent years, FDI inflows in China's banks have taken the form of minority shareholding with very limited management involvement. From 2004, foreign "strategic" investors have entered four of the largest five banks. For example, since June 2005, foreign investors have invested or committed to invest over \$14bn in the three large SCBs, in becoming strategic partners: the Bank of America (BoA) in China Construction Bank (CCB), a consortium led by Royal Bank of Scotland (RBS) in the Bank of China (BoC), and Goldman Sachs-led investor group in the Industrial and Commercial Bank of China (ICBC) (Leigh and Podpiera 2006:3-5, 11-13, see Table 1 and 2).¹⁹

China's early-1990s FDI boom followed then-president Deng Xiaoping's 'Southern Tour' in 1992 to politically support the strategic expansion of special economic zones (SEZs) and further encourage foreign direct investment. At the time, China issued an Investment Catalogue to channel FDI to preferred regions and industries.²⁰ Periodically updated, the Catalogue acts as a guiding policy tool vis-à-vis FDI as SEZs grew in kind and number throughout the country and limitations on wholly-owned foreign enterprises (WFOE) were gradually relaxed (WTO 2008:39-40; 2006:52-4; BEA 1999). Other measures conditioning FDI was China's long history of unofficial sectoral strategies that, in recent years, were published as official policy documents that increasingly restricted foreign ownership and access to the Chinese market. Official sectoral policies have been seen in the auto industry (1994, 2004, 2008), steel industry (2005, 2008), paper industry (2005), machinery industry (2006), and shipbuilding industry (2006) (Mattlin 2007:53).

China's impressive FDI inflow trends, however, are not the whole story. For instance, clouding the FDI data is the revelation that a share of inflows could represent the 'round-tripping' of funds that originated in China, but that finesse capital controls to take advantage of preferential tax treatment for foreign investments and to speculate on currency movements. Hong Kong and

¹⁷ The CSRC created in 1992 and amalgamated in 1997 to form one stand alone ministry-rank unit directly under the State Council was spun-off from the PBoC and other government agencies. The CSRC became the country's sole supervisory agency for the securities markets in stocks and bonds traded in Shanghai and Shenzhen exchanges (both created in 1990), in charge of monitoring listed companies, regulating securities firms and share issuance approvals, while also taking over local securities offices run by provincial governments. (Hansakul 2004) See also, CSRC website: http://www.csrc.org.cn/en/homepage/about_en.jsp

¹⁸ Wood, Andrew (2009). "China's foreign investor scheme on track", *Financial Times*, February 22; Konyn, Mark (2008). "Rules relaxation no incentive in crisis climate", *Financial Times*, March 30.

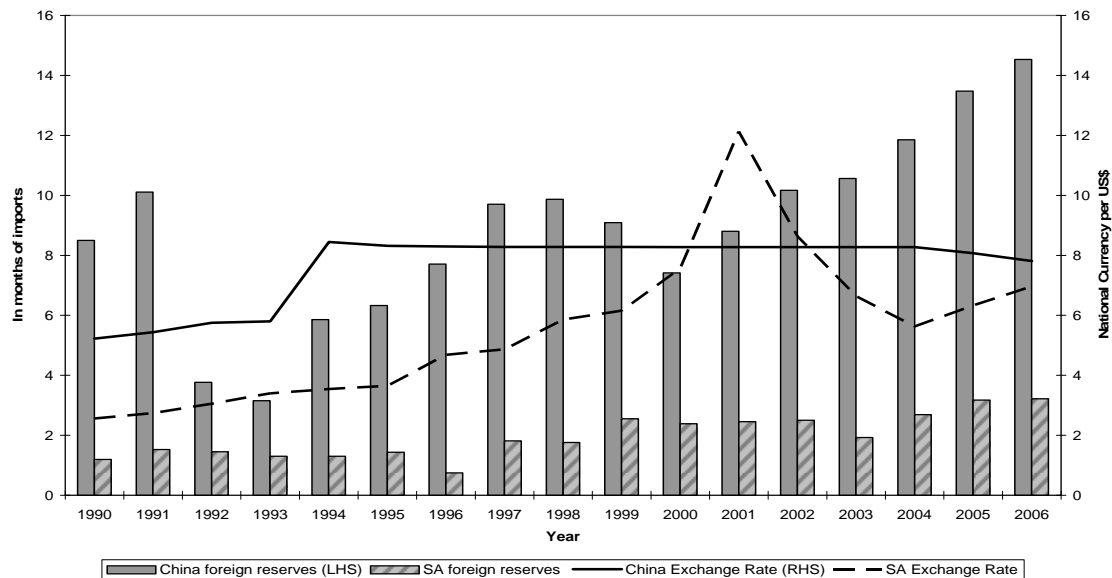
¹⁹ Under recent crisis conditions, however, these foreign banks' urgent need for capital has led to the sale of their strategic holdings (as soon as lock-in periods expire), mostly to Asian institutional investors. In the case of BoA, one third of its 16.7% stake was sold to China Life Insurance, Temasek Holdings, BOC International, and private equity fund Hopu Investment. [See also: Carew, Rick and Costas Paris (2009). "BoFA gets \$7.3bn in CCB sale", *Wall Street Journal*, May 13; Tucker, Sundeep and Jamil Anderlini (2009). "Exiting the dragon", *Financial Times*, July 1.]

²⁰ Foreign investment projects are classified among three categories: 'encouraged' (investments qualify for incentives), 'restricted' (investments subject to gradual opening), 'prohibited' (investments off-limits). Investments in sectors not explicitly listed in these three categories are deemed 'permitted' with limited incentives and restrictions attached.

Taiwan are seen as the main conduits of this practice, which then re-route FDI through Caribbean tax havens like the Cayman Islands, Virgin Islands, and Bermuda, which have seen FDI flows to China soar since 1998. Generally, however, Asian economies account for a substantial share of China's incoming FDI. Over the period 2001-2004, five Asian economies – Hong Kong, Japan, South Korea, Taiwan, and Singapore – represented about 60% of FDI inflows (Prasad and Wei 2005:6-7; Naughton 2003:12-3).²¹

FEATURE #4: Currency Convertibility

Figure 4. Foreign Reserves and Exchange Rate, 1990-2006



Source: IFS and WDI

Figure 4 contrasts the exchange rate regimes of both countries, as well as the accumulation of foreign reserves. With the removal of remaining exchange rate controls in 1995, South Africa has maintained a free-floating exchange rate determined by demand and supply in the foreign exchange market. As is apparent, the rand is a relatively volatile currency, undergoing a rapid devaluation in the mid- to late-1990s before the onset of a currency crisis in 2001 when the currency hit a low of R12.1:\$1, linked to emerging market financial contagion and the quick withdrawal of portfolio inflows (see Feature #3). Between 2002 and 2004, the rand made a steady recovery to pre-crisis levels with the help of improved global gold and platinum prices providing a boost to its value. (EIU 2008; 2007)

The rand's volatility is partly a reflection of the relatively high proportion of off-shore trading that makes the rand a 'speculator's paradise' for shrewd investors taking dollar-euro positions by buying the rand (and not the euro) when the dollar falls and selling the rand (and not the euro) when the dollar rises, thus causing larger than would be swings in the rand's value (IMF 2008a:16).²² Exchange rate volatility tends to have opposite effects on FDI and portfolio flows; one the one hand deterring FDI flows, and on the other hand creating fertile ground for portfolio

²¹ Recent steps, however, to improve regulation over offshore special purpose vehicles and unify the enterprise income tax law (for both foreign and domestic firms) are interpreted as China getting more picky about FDI inflows and winding down the prevalence of round-tripping (Chao and Xu 2008; Sussman et al. 2007). [See also: Xinhua News (2006). "Investors offering advanced tech welcomed", September 7. See, http://english.gov.cn/2006-09/07/content_381847.htm; EIU (2006). "Quality not quantity, please", November 10.]

²² Creamer, Martin (2005). "'Hot' \$7bn in inflow allaying current-account deficit concerns", *Engineering News*, February 21. See, <http://www.engineeringnews.co.za/print-version/hot-7bn-in-inflow-allaying-currentaccount-deficit-concerns-2005-02-21>

investors. Other important considerations include the level of foreign reserves, an increase of which can reduce exchange rate volatility, possibly through a signaling effect, which in turn can also promote FDI inflows. (Ahmed 2005:13-15)

The South African Reserve Bank (SARB) limited its intervention in foreign exchange markets since June 1998 when the Bank unsuccessfully attempted to defend the rand at a given value. It is now stated policy that the Bank will not try to protect any pre-determined level for the rand over a sustained period of time. However, the SARB has an announced policy of purchasing foreign currency in the foreign exchange market from time to time, depending on market conditions, with the aim of building up foreign reserves over time without seeking to influence the level of the exchange rate. While foreign reserves have attained record levels for South Africa (rising from 1.3 to 3.2 in terms of months of imports), government authorities recognize that reserves remain insufficient to cover the sum of the current account deficit and short-term debt, while also being low vis-à-vis other emerging markets. Authorities have indicated further willingness to accumulate foreign reserves, but the SARB has neither a specific timetable, nor a particular target level of reserves in mind. (IMF 2008a:16, 18; IMF 2008b:1295)

By comparison, China's multiple exchange rates were abolished in 1994 when the official fixed exchange rate was devalued and unified with the market-determined rate in designated 'swap' centers, which by that time had accounted for about 80% of current account foreign exchange transactions at the time. A managed floating regime was established, with a nominal exchange rate of RMB8.2:\$1. This regime was replaced by a defacto peg to the US dollar during the Asian financial crisis in 1997-98 as China resisted pressure to devalue the RMB along with other regional currencies. By 2005, China readopted its managed float regime, to be determined with reference to an undisclosed basket of currencies, allowing the RMB to fluctuate within a +/- 0.3% band, which was widened to +/- 0.5% in 2007 (Yu 2009:27-8; Wang 2004:21; IMF 2008b:304). This led to temporary bouts of rapid RMB appreciation, for instance in the first quarter of 2008 the currency was strengthening at an annualized rate of nearly 20%. However, with an impending economic slowdown and concerns over unemployment in the export sector, the pace of RMB appreciation has slowed amidst debate over possible depreciation.²³

As RMB demand grew over the years due to persistent twin surpluses in the current and capital accounts, combined with other hot flows disguised as export revenues or FDI inflows, the RMB has been under enormous pressure to appreciate against international currencies. To keep the RMB at its desired nominal level, the People's Bank of China (PBOC) has had to intervene by buying foreign exchange and injecting large amounts of RMB liquidity into the domestic economy while accumulating growing foreign exchange reserves. Up until August 2007, domestic institutions were forced to sell their foreign exchange receipts from current account transactions to the PBOC (IMF 2008b:313). As seen in Figure 4, from 1994 to 2006 foreign reserves in months of imports grew from 5.9 to 14.5. As of July 2009, Beijing's foreign reserve holdings surged through the \$2,000bn mark.²⁴

To minimize the impact to domestic interest rates and inflation from reserve accumulation linked to exchange rate controls, the PBOC engages in a sterilization policy to absorb excess RMB liquidity by issuing government bonds or special bills to state commercial banks, or by tweaking these banks' required reserve ratios to mop up excess RMB. However, besides creating difficulties with economic overheating and inflation, the sterilization policy has created serious problems for commercial banks, which are required to buy ever-larger amounts of low-yield PBOC bills while depositing an increasingly higher share of their liquidity with the PBOC, thus truncating the profitability of these banks and possibly threatening the stability of the financial sector. (Although the Chinese government has not shied away from re-capitalizing state banks

²³ Dyer, Geoff (2008). "China's exchange rate management keeps economists guessing", *Financial Times*, June 25.

²⁴ McGregor, Richard (2009). "China's forex reserves pass \$2,000bn", *Financial Times*, July 15.

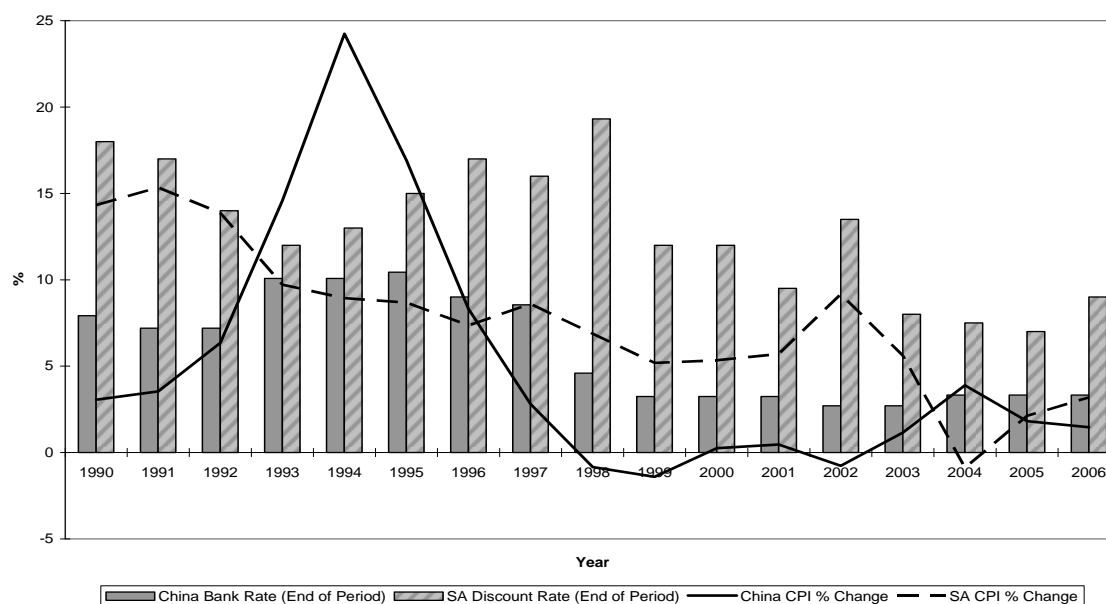
when necessary, and is now on better financial footing from rapid real economy growth rates) (Yu 2009:35; Lavigne 2008:2-3,8; Roubini and Setser 2005:4)²⁵

To ease the exchange rate sterilization process and to generate better returns by gradually diversifying away from US Treasury bills, China formally established its first sovereign wealth fund (SWF), the China Investment Corporation (CIC), in September 2007. Starting out with a capital fund of \$200bn, about two-thirds of this amount was spent acquiring and bailing out state-owned financial assets, leaving roughly \$90bn to be invested in equities in offshore financial markets. Borrowing a page from the Singaporean government, China's SWF initiative appears to make use of the country's substantial (and low-yielding) foreign reserves towards acquiring more desirable foreign assets such as access to natural resources, market information, technology and brand names. (Martin 2008; Setser 2008; Kroeber 2007; Cheng and Ma 2007; Wu 2005)

Essentially caught in a 'dollar trap' whereby Beijing authorities cannot rapidly diversify away or sell their dollar assets without causing considerable harm to the value of the remaining assets that they own, in response China has shown signs of wanting to raise the RMB's role in international trade and finance, while reducing reliance on the dollar. For instance, in March this year, PBOC governor, Zhou Xiaochuan proposed expanding the role of special drawing rights (SDRs). China has also signed a total of RMB 650bn in bilateral currency swap agreements with six central banks: South Korea, Hong Kong, Malaysia, Indonesia, Belarus and Argentina. In May, China and Brazil are to work out a scheme for bilateral trade to be settled in the RMB and the Real, rather than the dollar.²⁶ (Roach 2009)

FEATURE #5: Pro-Growth Monetary Policy

Figure 5. Interest and Inflation Rates, 1990-2006



Source: IFS

²⁵ Lex Column (2008). "Pandering to growth", *Financial Times*, January 8. See also: Humpage, Owen F., and Michael Shenk (2009). "Renminbi 101", Economic Trends, Federal Reserve Bank of Cleveland, May 3. See, <http://www.clevelandfed.org/research/trends/2009/0309/01intmar.cfm>

²⁶ Garnham, Peter (2009). "Beijing's dollar trap", *Financial Times*, July 30; Anderlini, Jamil (2009). "China calls for new reserve currency", *Financial Times*, March 23; Wheatley, Jonathan (2009). "Brazil and China eye plan to axe dollar", *Financial Times*, May 18.

Figure 5 compares the respective monetary policy pathways taken by both countries. In South Africa's case, tight monetary policy via relatively high interest rates has been perceived as necessary to attract foreign capital flows to cover current account deficits (see Feature #2), while also maintaining price stability for sustained growth. Between 1990 and 2006, nominal interest rates have fluctuated but have generally been on the decline. For instance, between 1990 and 1998, nominal interest rates fell from 18% to 12% in 1993, before rising again to 19.3% in 1998. After this, interest rates continually fell until hitting a nominal low of 7% in 2005 (5% real interest rate), before rates started to rise again in efforts to contain global price shocks in fuel and food, and higher domestic electricity prices. Between 2006 and 2008, the SARB increased interest rates 10 times, hiking the rate by 5%. Under conditions of economic slowdown, by August 2009 these increases were completely unwound.²⁷

During the 1990-2006 period, inflation rates have been gradually reduced to single-digit territory since 1993, notwithstanding a brief spike in 2002 reflecting a sharp exchange rate devaluation at that time. In recent years, inflation is expected to remain above the target band until the second half of 2010, as the SARB has made it clear that monetary policy will tighten as necessary to anchor inflation expectation and contain second-round effects (such as wage settlements) of global price shocks (IMF 2008a; OECD 2008:10).

Since February 2000, formal inflation targeting within a 3%-6% band has been adopted by the officially independent SARB, although the consumer price index (CPI) exceeded the 6% upper bound in 31 of 74 months between February 2002 (given a 24 month policy lag) and December 2007. Throughout the 1990s, the SARB pursued implicit inflation targeting with no officially announced target band, and was nonetheless successful in bringing down inflation rates substantially. (Marinkov and Burger 2008)

In contrast to South Africa, China's interest rates rose to 10% in the mid-1990s – as inflation spiked in 1994, coinciding with China's move to a devalued managed floating exchange rate regime – before falling to just under 5% in 1998 and consistently held at around 3% thereafter as inflation remained in negative territory or at a very low level. Generally speaking, China's monetary policy aims to balance low inflation with continued strong growth as a recipe for maintaining social stability. Thus, monetary policy is not the sole sanctuary of the PBOC, but politicized through active guidance from the State Council, China's cabinet.²⁸

Unlike in South Africa and many other developing countries, China's managed exchange rate regime constrains the traditional policy options available to monetary policy, although the presence of effective capital controls does leave room for some independent decision-making. For instance, any increase in interest rates would raise the incentive for disguised hot money to flow into China. If this inflow were not fully sterilized, it would expand the money supply and prevent the expected result from tightening of monetary conditions, while also mounting pressure for currency appreciation. Thus, on top of traditional monetary policy levers, government officials also resort to unorthodox measures to control credit and investment growth and inflation. Such measures include moral suasion and administrative controls to influence the extent of lending – regardless of the interest rate – and to which economic sectors this lending should go. Moreover, commercial banks have excess reserves that make them insensitive to interest rates – which is also the case for SOE's since 2003 that have seen increasing rates of retained earnings (see Feature #2). (IMF 2006:14-5; Flassbeck 2005)

FEATURE #6: Dynamic Comparative Advantage?

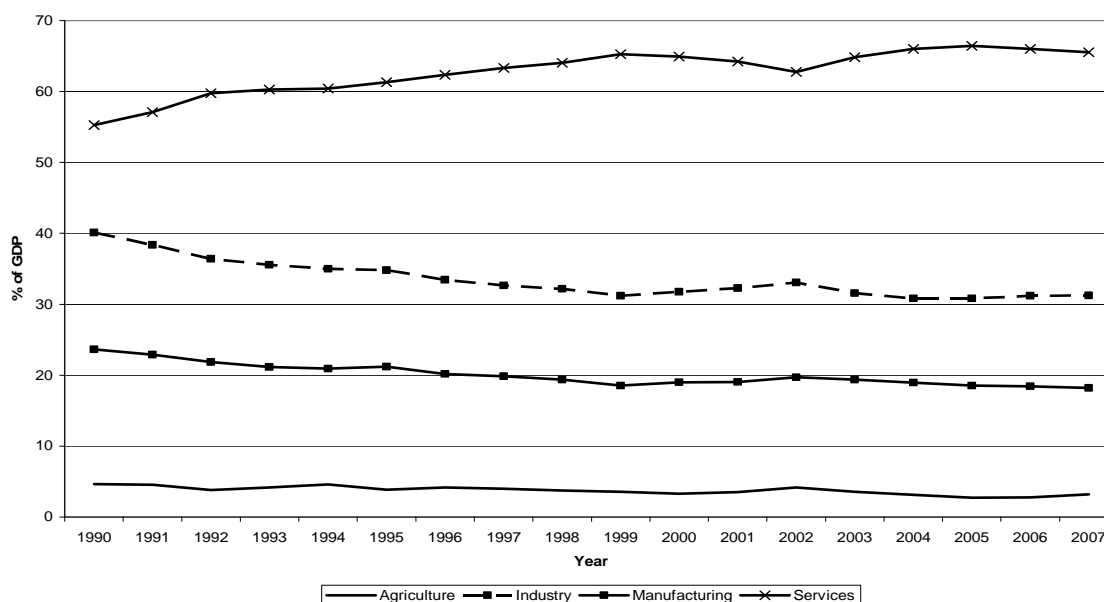
The following figures analyze respective economic structures using the broad classifications of agriculture, industry (manufacturing), and services sectors. In terms of dynamic comparative advantage, the relative size of industry and manufacturing sectors is of particular importance due

²⁷ Business Day (2009). "Bank shows flexibility on targeting", August 14.

²⁸ Lex Column (2008). "Pandering to growth", *Financial Times*, January 8.

to their pivotal role as a source of innovation and in the application of technological progress to production, both of which contain large beneficial externalities to agriculture and services (Greenwald and Stiglitz 2006:143). In short, “it is difficult to find countries selling high-value services (excluding tourism) that have not first undergone industrial development: the institutions and skills now involved in service exports were developed in conjunction with manufacturing.” (Lall 2005:4)

Figure 6a. South Africa Value-Added by Sector, 1990-2007



Source: WDI

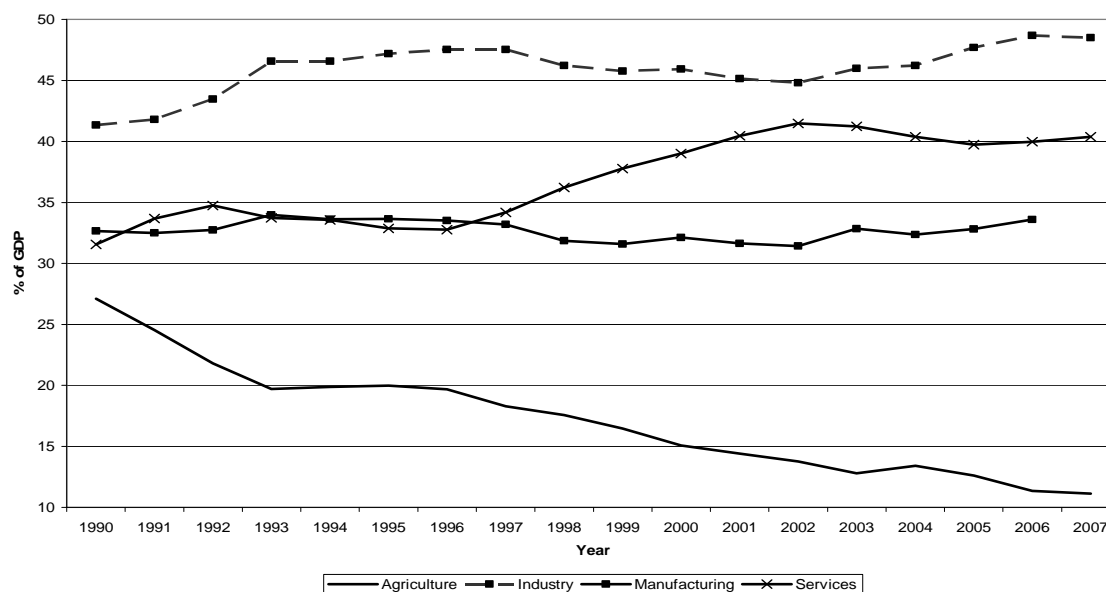
As seen in Figure 6a, South Africa’s economic structure is largely dominated by the services sector – the only sector whose value-added proportion grew – rising from a share of GDP from 55.3% in 1990 to 65.5% in 2007. Service sector growth benefited from increasing financial services liberalization throughout the 1990s, while suffering a slowdown in the late 1990s and early 2000s in the wake of the Asian financial crisis. Overall, the persistent disproportionate large size of the service sector vis-à-vis industry (see below), atypical for middle-income countries, is a legacy of SA’s historical development as a dual economy under apartheid, and generally perceived as an ongoing trend of ‘premature de-industrialization’, where the financial sector is out of kilter with the goal of facilitating growth in the real economy (Rodrik 2006c).

The industrial sector’s share of value-added steadily fell from 1990 to 2007, from 40.1% to 31.3% of GDP. Similarly, manufacturing sector’s share of value-added decreased in parallel to that of industry as a whole, albeit to a lesser extent, falling from 23.6% to 18.2% of GDP. These trends are generally consistent with other findings showing South Africa’s share of world, developed market and sub-Saharan Africa (SSA) manufacturing value-added (MVA) declining persistently over the past two decades. For instance, South Africa’s total MVA annual average growth rate between 1980 and 2000 was just over 1%, while the rate for other developing countries (excluding China) was about 4.5%, and for the world as a whole, roughly 3%. Within SSA, South Africa’s MVA share fell from 50% in 1991 to 47% in 2000 (Kaplan 2004:623-4; Lall 2005:11-2).

For its part, agricultural value-added has remained relatively constant, decreasing slightly from 4.6% in 1990 to 3.2% of GDP in 2007. According to the National Agriculture Marketing Council (NAMC), overall agriculture production between 1990 and 2008 increased by 30% in volume, with horticultural production (such as fruits and vegetables, mainly for export) up by 62%, livestock production (meat and chicken) up by 29%, and field-crop production (maize and wheat) up by

13%. In the same period, population growth was 32%. Overall, sugarcane production represents a large proportion of SA's agricultural output, 20,275 metric tonnes (mt) in 2006, followed by maize, 6,618 mt. Grape and orange production accounted for roughly 3,721 mt. SA remains a net exporter of raw agricultural commodities such as maize and sugarcane, but is a net importer of processed foods like soybean products.²⁹ (EIU 2007:72)

Figure 6b. China Value-Added by Sector, 1990-2007



Source: Ibid.

As for China, with growth led by high rates of manufactured exports and domestic investment (see Feature #2), industry value-added represents the bulk of economic activity, its share rising from 41.3% to 48.5% of GDP from 1990 to 2007, as seen in Figure 6b. Manufacturing value-added has remained steady throughout this period of rapid growth, representing 32.7% in 1990 and 33.6% in 2006 (latest data available). As compared to South Africa, the predominance of the Chinese industrial and manufacturing sectors appears more aligned with the country's earlier stage of industrial development and in conjunction with service sector growth.

The services sector has also grown substantially, but remains smaller as a percentage of GDP than industry. In 1990, China's services sector was 31.5% of GDP before rising quickly in the late 1990s in light of financial service sector reforms in preparation for WTO accession, and stabilizing at a level of 40.4% of GDP in 2007. Generally speaking, China's services sector growth has not kept up with overall growth, and has been restrained due to limited reform and opening to foreign investment; areas such as banking, insurance, education, medical care, transportation and telecommunications, all represent sectors where government ownership remains prevalent and market entry strictly controlled for reasons of national security. As industrial development has been the overarching focus, it was not until China's 10th five-year plan (from 2001 to 2005) when leaders began to gradually place more attention on the development of the services sector and gradually allow greater participation from overseas investors.³⁰

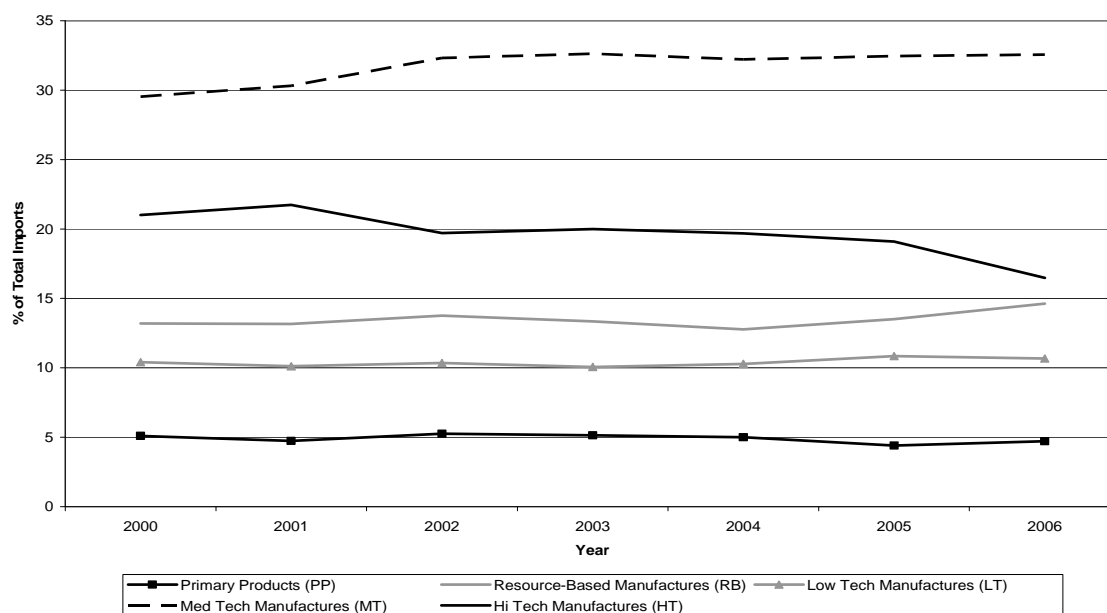
²⁹ Donnelly, Lynley (2009). "Outgrowing our food", *Mail and Guardian*, August 13. See, <http://www.mg.co.za/article/2009-08-13-outgrowing-our-food>

³⁰ People's Daily (2002). "China adopts new policy for faster growth of service industry", January 28. See, http://english.people.com.cn/200201/28/eng20020128_89449.shtml ; People's Daily (2002). "China's service sector ready to ripen: Economic Daily", April 28. See, http://english.people.com.cn/200204/28/eng20020428_94885.shtml

As for the agricultural sector, its value-added contribution to GDP has diminished over time, solidifying China's transformation from an agriculture-based economy at the beginning of the reform period to that of industry and manufacturing-based economy – ie. the workshop of the world. The agricultural sector's share has declined from 27.1% in 1990, to 11.1% of GDP in 2007, a level that remains comparatively high compared to most advanced industrialized economies, as around 314m people – roughly 41% of total nationwide employment – still make a living from farming, forestry, animal husbandry and fisheries. Today, Chinese domestic production remains predominantly focused on grains (rice, wheat, maize), totaling 497.5 mt, making China largely self-sufficient in these commodities. Production of fruits, vegetables and pork has also increased in recent years, making China a major exporter of these items. However, with WTO accession, China has become one of the world's top four agricultural importers, mainly importing cotton and soybeans. (Lohmar et al. 2009:5-10; EIU 2008:60)

To further examine the technological dynamics of each economy, Figures 6c and 6d provide a breakdown of imports by technology structure, albeit covering a limited number of years for which data is available and relatively complete for both countries.³¹ The technological structure of exports is not displayed due to the predominance of 'assembly' trade (importing for export) in China's trade statistics which inflate its performance in higher-value goods (Lin and Wang 2008:26-7; Gaulier et al. 2006; Lemoine and Unal-Kesenci 2004). As such import structures are to be analyzed in order to detect real shifts in domestic production patterns and ultimately, comparative advantage.

Figure 6c. SA Imports Technology Structure, 2000-2006



Source: UN Comtrade, SITC 3-digit, Rev.2

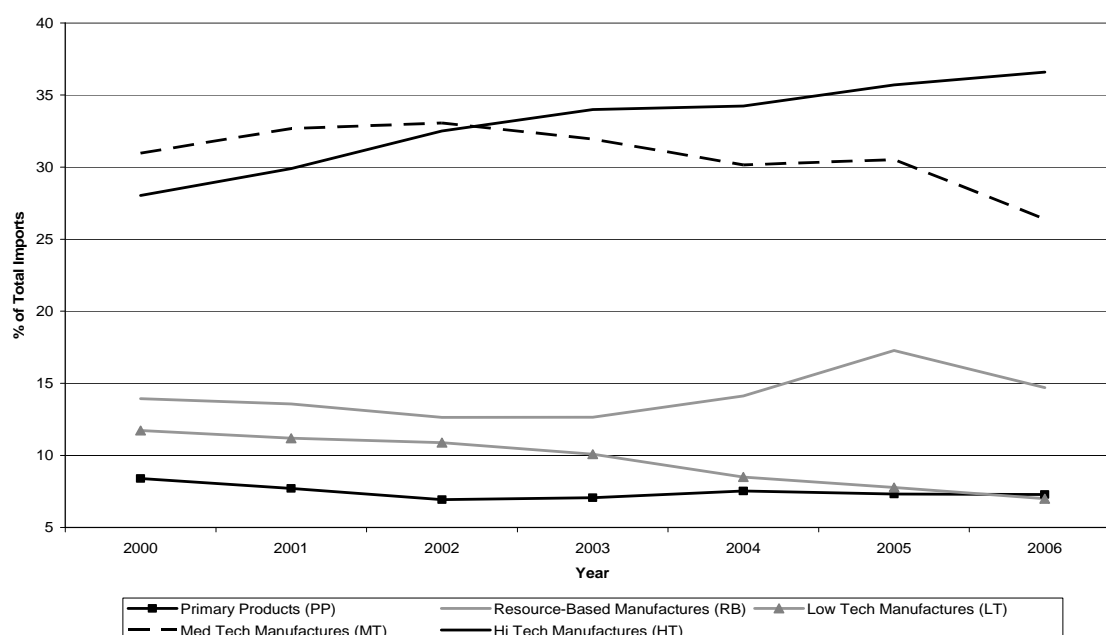
As seen in Figure 6c, South Africa's import technology structure consistently remains dependent on medium technology imports (auto, chemicals, machinery), which has steadily increased its share of total imports from 29.5% in 2000 to 32.6% in 2006. Otherwise, most categories of technology structure have not experienced much change over the 2000-2006 time period. Low technology imports (textiles, leather, apparel), and primary products (raw commodities) have generally remained at around 10% and 5% of total imports, respectively. Resource-based imports (processed commodities) have increased slightly, moving from 13.2% in 2000 to 14.6% in 2006.

³¹ The methodology for capturing 'technology structure' was replicated from a study by Lall (2000:7-10, 34-5; Lall and Weiss 2004). See Table 1 in Annex A for examples of technology classifications.

Perhaps most surprisingly is the fall in high technology imports (electronic, electrical, optical instruments), which has seen its share of total imports decrease from 21% in 2000 to 16.5% in 2006. A breakdown of the high-technology, shows the category roughly split 70-30 between 'Electronics and Advanced Electricals' (ex: office/data processing/telecom equip, TVs, transistors, turbines, electricity generation equipment), which grew from 68% in 2000 to 71.7% in 2006 in its share of HT imports, and 'Other HT Manufactures' (ex: pharmaceuticals, aerospace, optical/measuring instruments, cameras), which declined from 32% to 28.3% over the same period.

While the trend in high-tech imports could suggest increasing competitiveness and import substitution at this level of technology due to increased domestic production and/or FDI inflows, SA does not significantly export high-technology manufactures. Indeed, according to World Development Indicators (WDI), SA's high-tech exports reached a peak of 8.7% of manufactured exports in 1998, before falling steadily to 5.7% of manufactured exports in 2007.

Figure 6d. China Imports Technology Structure, 2000-2006



Source: UN Comtrade, SITC 3-digit, Rev.2

Figure 6d provides China's imports by technology structure, revealing the changing orientation of imports as high technology manufactures' share of total imports surpasses the share of medium technology imports in 2002 and continues to diverge thereafter. As a result of the ongoing evolution of China's assembly trade into higher value goods (McMillion 2002; Francis et al. 2005; Rodrik 2006b), the share of high technology imports has increased significantly from 28% in 2000 to 36.6% in 2006. During this time, the share of medium technology imports has dropped from 31% to 26.4%, reflecting strong growth in domestic production capacity in intermediate products and capital goods (chemical fibre, steel, plastics, industrial boilers) – ie. medium technologies – experienced since 2000. Also helped by FDI inflows that have brought more stages of production to China, rising domestic production capacity has reduced the import content of exports notably for home electrical appliances, ordinary machinery, and to a lesser extent, higher technology products such as precision apparatus, thus allowing exports of final products to grow strongly despite a slowdown in imports of intermediate inputs and capital goods (Li and Syed 2007:6-7)

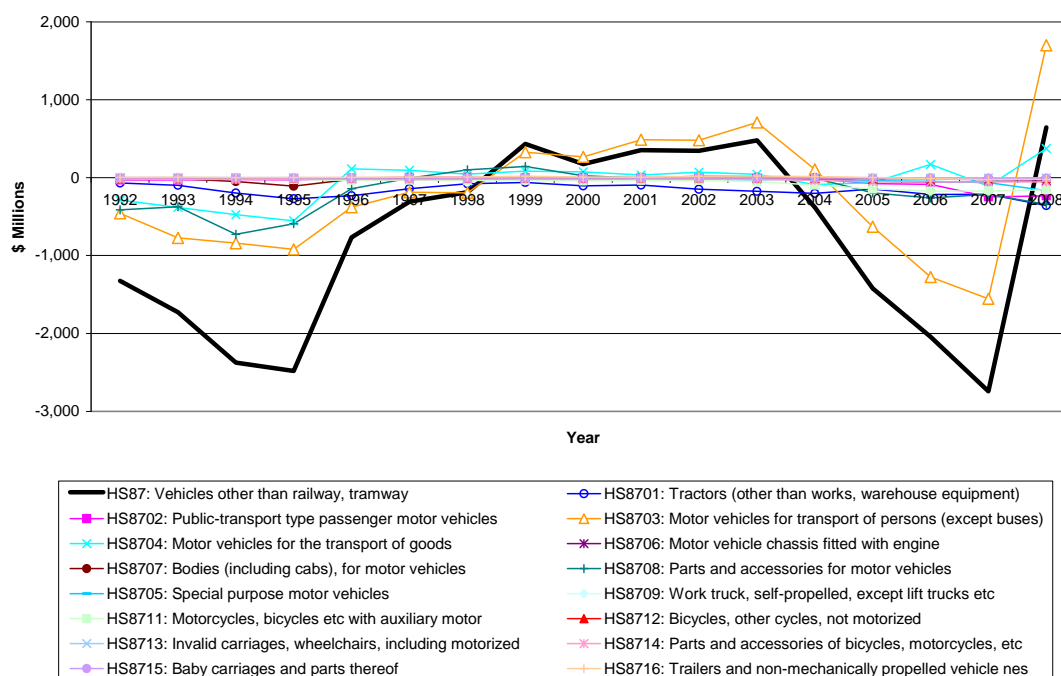
The declining share of low-technology imports from 11.7% in 2000 to 7% in 2006, also reflects changes to China's trade composition over the years, as assembly trade in labour-intensive

goods – ie. low technology manufactures – which used to dominate China’s exports up until the mid-1990s, was replaced by assembly trade in higher value medium- and high-technology goods that is seen today. Domestic content in low-technology goods appears on the rise as domestic production capacity increased and producers moved into ‘newer’ more complex industrial sectors (Francis et al 2005:11; Dobson 2004:12-3). Other sectors, namely primary products and resource-based manufactures, have either remained stable or increased, as would be expected from a resource-scarce country such as China. Primary products slightly decreased its share in total imports from 8.4% in 2000 to 7.3% in 2006, while resource-based imports increased from 13.9% in 2000 to 14.7% in 2006.

FEATURE #7: Sectoral Strategies: Motor Vehicles

To delve further into the structural dynamics of the industrial and manufacturing sector, the following discussion highlights key features of motor vehicle sectoral strategies carried out respectively by both countries and the sub-sectoral trade balance trends that resulted.

Figure 7a. SA HS87 Trade Balance Breakdown by HS4 Categories, 1992-2008



Source: Quantec.

As seen in Figure 7a, South Africa’s net trade balance in the **HS87** category (Vehicles other than railway, tramway) has fluctuated between deficit and surplus over the 1992-2008 period. The category had a trade surplus starting in 1999, before falling back into deficit in 2004, and rising again to a surplus of \$1.7bn in 2008. Examining trade balances by HS87 sub-categories reveals the increasingly dominant role played by **HS8703** (Motor vehicles for transport of persons – ie. passenger vehicles) in determining the overall balance of the HS87 category as a whole. In the early 1990s, trade deficits in HS8703, combined with deficits in **HS8708** (Parts and accessories for motor vehicles), **HS8704** (Motor vehicles for the transport of goods), and **HS8701** (Tractors), among others, contributed to a large overall deficit of \$2.5bn. By the late 1990s, HS87 rose to surplus, supported by trade surpluses in HS8703, and to lesser degrees, in HS8704 and HS8708. Between 2004 and 2007, however, HS8703 returned to deficit, hitting a low of \$1.6bn, which dragged the overall HS87 category back into a deficit of \$2.7bn. In 2008, HS8703 reverted back to a positive trade balance that (combined with HS8704) pulled the entire category (mostly in deficit) back into surplus.

Figure 7a shows that despite occasional trade surpluses in HS87 over the 1992-2008 period, the overall balance appears strongly reliant on the trade performance of mostly one sub-category, HS8703, passenger vehicles. By 2008, the only other sub-category in surplus was HS8704 at \$372.8m, while all other sub-categories have been increasingly falling into deficit. With the one-sided structure of trade balances among HS87 sub-categories, the sizeable fluctuation in this category is a reflection of the generally weak industrial base in this category beyond the HS8703 product line.

The prominent role of HS8703 should be seen in the context of the South African government's sectoral strategies for the motor vehicle and motor vehicle parts industries dating back to 1961, when the first of six local content program was rolled out behind high tariff barriers, ultimately designed to save on foreign exchange rather than to consolidate production. By 1989, the sixth phase of the local content program changed the definition of local content from being based on weight to value, and a regulatory regime of export credits was established so that assemblers could include the value of motor vehicle parts in their local content targets. By 1995, the local content programs were replaced by the Motor Industry Development Programme (MIDP), which was extended twice, first in 1999 and again in 2002, ultimately extending the MIDP to 2012. As seen in Figure 7a, the start of the MIDP and the subsequent reviews corresponded with shrinking trade deficits in HS8703 (and to a lesser extent HS8704 and HS8708) that brought HS87 out of deficit.

The Program embodied the following policy objectives: a) improve the international competitiveness of firms in the industry; b) enhance growth of industry through foreign investment and exporting; c) improve vehicle affordability; d) improve the industry's highly skewed trade balance; e) stabilize and raise industry employment levels. To strive for these goals, a series of policy tools was formulated, generally consisting of export-oriented incentives and a gradual reduction in import tariffs between 1995 and 2002. Key provisions of these measures consisted of:

1. Removal of minimum local content requirements and introduction of Import Rebate Credit Certificates (IRCCs) that allowed both automobile and parts manufacturers to earn tariff duty credits from exporting to be used either to offset import duties of cars, parts or materials, or to trade these credits to other firms.
2. A Duty Free Allowance (DFA) of 27% on the wholesale value of a vehicle, which was exclusive to producers of motor vehicles for the domestic market.
3. A Production Asset Allowance (PAA) that allowed 20% of the value of investment in productive assets to be used as credits against the duty on imported light vehicles equally spread over 5 years. The aim of the PAA was to concentrate vehicle product lines, while also encouraging exports and localization of parts. The PAA benefits required approval from the International Trade Administration of Southern Africa (ITAC).
4. Nominal tariff rates were gradually phased down to 38% for completely built-up vehicles and 29% for parts and components by 2003.
5. A Small Vehicle Incentive (SVI) that subsidized the manufacture of economy-size automobiles. This incentive was withdrawn in 2001 due to its limited impact on making vehicles more affordable to the poor. (Barnes et al. 2003:5-7; Deloitte 2009:16-7)

In September 2008, the Department of Trade and Industry (DTI), announced that the MIDP would be replaced by the Automotive Production and Development Programme (APDP), which would run from 2013 to 2020 and aim to double production of vehicles from 534,490 in 2007 to 1.2 million over this time period. In addition to ramping up production and scale of vehicle assemblers, the APDP also envisions the need for a well-developed supplier base to help reduce

the logistical cost of importing components from great distances. Specific provisions, however, are generally along similar lines to the MIDP.³²

While there is little doubt that the MIDP was effective in keeping major foreign automakers invested in South Africa, boosting exports and productivity (for Original Equipment Manufacturers, OEMs, and first-tier suppliers), and rationalizing production, a recent assessment of the MIDP's IRCC scheme not only reveals how the program is a drain on the national economy (even under the most favourable assumptions) (Hausmann et al. 2008:18), but also the structural limitations found within the plan itself. In dissecting the MIDP, Hausmann et al. generally argue three main points:

- While the MIDP has boosted exports, despite high tariffs imports have not been deterred due to the inherent logic of the MDIP. By incentivizing imports through a rebate for import tariffs, the IRCC actually offsets the import-disincentive from higher tariffs, thus causing these two effects on imports to cancel each other out, leaving no impact on the volume of sectoral imports.
- With a large proportion of the motor vehicle sector owned by foreign companies, the export subsidy represented by the IRCC accrued solely to foreign companies. Thus, the main benefit from the scheme relies on the additional employment created which is estimated at 15%, around 14,000 jobs. With average labour remuneration in the sector at R144,000 per annum, the (maximum) net employment surplus is roughly R2bn.
- This figure does not compare well with the amount of IRCC transfers to foreign OEMs, which is estimated conservatively at R3.8bn, still substantially larger than the net employment surplus (R2bn), and ultimately a drain on the national economy that is not targeted at the binding constraint of the industry, namely, increasing the scale of production and strengthening the supplier base. (Hausmann et al. 2008:18-21)

Although the authors make some slight qualifications to their calculations, they suggest that the subsidy being made to foreign automakers via the IRCC scheme is too large for “the rest of the numbers to make much of a difference to the bottom line.” (Ibid:21) Nonetheless, the authors do stress that whatever the costs of the MIDP, it has created the foundations of a sustainable motor vehicle industry that can compete globally without prolonged protection or export subsidies, if the domestic supplier base is broadened and deepened (Ibid:18).

Left unsaid, however, is the role of domestic ownership in not only favourably transforming the equations on which the above calculations are based, but also in tapping into less tangible but equally as valuable opportunities to accrue operational capability (know-how) over time, which is necessary (but not sufficient) for the deepening of technology capabilities (know-why) in a key value-added sector often regarded as strategic in many advanced and emerging industrialized nations.³³ As Lall suggested:

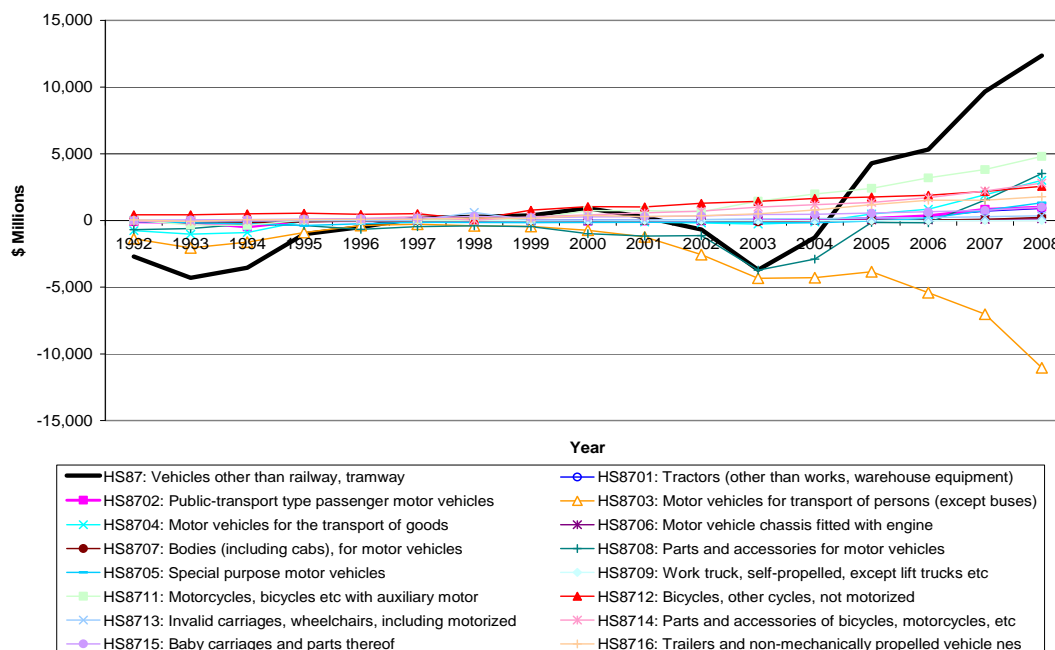
The development of know-why allows firms to select better the technologies they need, lower the costs of buying those technologies, realise more value by adding their own knowledge, and to develop autonomous innovative capabilities. (Lall 2004:12-3)

³² Four main measures: 1) By 2012 import tariffs will be pegged at 25% for completely built-up vehicles, and 20% for parts and components; 2) By 2013, vehicle manufacturers with plant volumes of 50,000 units per year will be allowed to import 20% of their components duty free (reducing to 18% over three years); 3) By 2013, a production incentive will be introduced in the form of a duty credit to raise production; 4) By 2009, an automotive investment allowance will take the form of a direct grant to encourage investment in new plant and machinery, amounting to 20% of the project value over three years. [Mail & Guardian (2008). “New plan to boost SA vehicle production”, September 4. See, <http://www.mg.co.za/article/2008-09-04-new-plan-to-boost-sa-vehicle-production>; NAAMSA (2008). “NAAMSA reaction to the announcement of the APDP”, September 4. See, <http://www.naamsa.co.za/papers/20080904/>]

³³ While the coherence of the regulatory framework will ultimately shape the behaviour of domestically owned firms, without ownership, dynamic learning benefits are unlikely to accrue at all in the domestic economy.

By ruling out the importance of ownership in this sector (particularly at the higher end of the production chain), the government foregoes any (longer term) chance of domestic learning accumulation, as well as the possibility of tapping other dynamic benefits relating to coordinated complementary investments in inter-related sectors, and so-called 'pecuniary externalities', whereby production processes are enhanced and costs reduced through greater innovation derived from close interaction among firms along the supply chain in creating pockets of competitive advantage in the sector (World Bank 1993:92-3).

Figure 7b. China HS 87 Trade Balance Breakdown by HS4 Categories, 1992-2008



Source: UN Comtrade.

As seen in Figure 7b, China's net trade balance in HS87 also fluctuated during the 1992-2008 period, falling in deficit in the early 1990s (\$4.3bn in 1993) and 2000s (\$3.7bn in 2003), and rising to a mild surplus in the mid- to late-1990s (\$924.3 in 2000) and again, more forcefully, in the mid- to late-2000s (\$12.4bn in 2008). Unlike in the case of South Africa, breaking down HS87 by sub-categories shows how the trade balance of HS87 has become less sensitive to **HS8703** (Passenger vehicles) over time, as HS8703 has moved further into deficit (\$11bn in 2008), while the overall HS87 category has strongly moved into surplus. This trend perhaps suggests the wider industrial base that China has built up over the years, as all other HS87 sub-categories, except **HS8709** (Work truck, self-propelled, except lift trucks), have gradually moved out of trade deficit by 2008, and thus bringing the entire HS87 category into surplus. For instance, the trade balance of **HS8711** (Motorcycles, bicycles etc. with auxiliary motor) grew from \$13.1 million in 1992 to \$4.8bn in 2008. Also of note is the trade performance of **HS8708** (Parts and accessories for motor vehicles) after 2003, as it strongly contributed to the reversal in trade performance of HS87 overall.

In contrast to the South African motor vehicle sector, while improving the trade balance of HS8703 remains a key goal, Chinese authorities have taken a more balanced development approach to the HS87 category as the overall surplus achieved in recent years is not solely dependent on the performance of one product category, namely HS8703, but from a wider variety of product categories within HS87, which appears to make the surplus more durable as a whole. If HS8703 can eventually be returned to surplus, the overall trade balance outlook for HS87 will be that much stronger.

China's industrial base is an enduring legacy of former Chairman Mao Zedong's 1960s strategic policy that each province, prefecture, county or even town should have a relatively complete industrial structure comprising of five local SOEs producing iron and steel, cement, fertilizer, coal, and machine tools, to disperse industrial capacity in case of a military attack. As a result, China's contemporary industrial base, while geographically broad-based, remains highly fragmented (Yusuf et al. 2006:91-2; Lin 2004; Young 2000).

With industry reforms beginning by the mid-1980s, China's first official auto policy was announced in 1994, as the central government sought to consolidate a fragmented Chinese production structure, while providing protection for local automakers through import quotas and high tariffs (between 80 to 100%) on both vehicles and parts. A foreign ownership ceiling of 50% in joint ventures (JVs) was established to allow Chinese partners more control and leverage in technology transfer negotiations. Regulations also placed greater demands on foreign partners such as local content requirements of at least 40% in the first year of operations, enhanced technology transfer to partners, requests to open joint technical centers for training of Chinese workers, as well as limitations to the product mix chosen by the JV (Noble et al. 2005; Gallagher 2003; Thun 2004; Girsky 2004). The JV approach was widely used to maintain and augment production capacities in a wide range of industries; a similar approach was used in the motorcycle sector (Brown and Hagel III 2005).

To promote auto industry exports, the updated 2004 Auto Industry Policy, allowed for majority stakes in auto and motorcycle JVs, as long as these took place in export processing zones and aimed at overseas markets. In 2003, Honda acquired a 65% stake in a JV in Guangzhou Province with Dongfeng Motor and Guangzhou Auto Group. Unlike in 1994, the new policy allows foreign investors to establish more than two JVs in China to make the same types of vehicles (passenger, commercial, motorcycle). However, this was allowed to encourage sectoral consolidation as foreign firms could join forces with existing Chinese partners to acquire other auto firms in China, and as long as one of the Chinese shareholders holds the largest equity stake of all foreign investors combined.³⁴

Efforts were to concentrate on the Chinese 'Big Three' automakers, First Automotive Works (FAW), Dongfeng Motors, and Shanghai Automotive Industry Corp. (SAIC), and to consolidate the industry into eight to ten firms by 2000, and into three to four large corporate groups by 2010. However, resistance from localities forced central government officials to widen their consolidation scheme to include three smaller local manufacturers (Beijing, Guangzhou, and Tianjin), and later in the 1990s, two military-converted 'mini' firms specializing in subcompact cars (Chang'an, and Guizhou Aviation Industry Corp). Thus the automobile policy became known as, 'three-large, three small, and two mini', rather than just the 'Big Three' strategy (Noble et al. 2005:6-7).

While the joint venture approach was effective in building production capacities (know-how) within the domestic industry by selectively establishing vehicle assembly and supply bases around the country, the arrangement was not overly successful in transferring technology and know-why to domestic firms. With most JVs proving highly profitable, these rents were not being re-invested in the difficult task of building domestic brands, core technologies, and few chances existed to engage in design or product integration within the JV. By the early 2000s, a slew of intellectual property cases involving medium-size upstarts drew the government's attention as international pressure for observance of intellectual property rights (IPRs) appeared to restrain the longer-term developmental options for Chinese companies. These upstarts, not originally part of the government's auto plans, focused precisely on systems integration and design capabilities (often contracting European design houses), and used the established supply base to demonstrate their ability to combine local and foreign parts and designs in bringing to market a wide range of models mostly at the lower-end of the value chain. (Ibid.:15-9)

³⁴ People's Daily (2004). "Automobiles industry opens wider for overseas investment", October 7.

For these reasons, the government became less wary of these upstarts (in keeping production fragmented) and recognized the role they could play in further deepening production capacities and lowering vehicle costs. The combination of foreign pressure from IPRs with increasing government support linked to demonstrated economic performance, ultimately pushed the larger joint venture firms into a process of acquiring their own independent capacities and brands. As such, in the past three years, independent automakers and brands have grabbed roughly one quarter of market share in China's now highly competitive auto industry.³⁵ Upstart companies such as Chang'an Auto first entered a technology transfer agreement with Suzuki in 1982, then signed a joint venture with Ford, before beginning to design and exports its own Chang'an brand models as of 2000. Other firms like Geely Auto, nominally private-owned with support from the local Zhejiang provincial government began its corporate history making refrigerators in 1986, moving into the motorcycle sector in 1992, before entering the auto sector in the mid-1990s with its own intellectual property and brand name. In September 2009, Geely announced it was involved in a bid for Ford Motor Co.'s Volvo brand, distribution channels and technology.³⁶

Despite China's commitment to make its automotive policy compatible with WTO rules and principles, there is concern that the Chinese government merely switched to other measures to promote national objectives. One controversial measure, currently going through WTO dispute settlement procedures, is China's practice of applying a 25% tariff rate to imported parts – when the resulting completed car exceeds a threshold amount of imported parts – rather than the 10% rate agreed upon in China's terms of accession. The US government has argued that such measures “impose charges that unfairly discriminate against imported automotive parts and discourage automobile manufacturers in China from using imported automotive parts in the assembly of vehicles.” (Stewart et al. 2007:23-7)

In December 2008, a WTO Appellate Body upheld a July ruling against China's auto parts tariff, although US trade officials noted that the value of the ruling for foreign companies may be blunted by the fact that “the Chinese government policy has already created a parts industry under this policy.” Besides, Chinese officials indicated that immediate compliance was impractical and have since implemented a new auto tax that varies with the size of a vehicle's engine – a commonly used WTO-compliant measure seen as implicitly limiting market access for foreign automakers that generally have larger engines than domestic Chinese cars.³⁷

Covering the period 2009-2011, the latest Auto Industry Policy was issued in response to the global economic downturn as central authorities introduced a raft of measures to selectively boost domestic consumption³⁸, while also addressing ongoing restructuring, technology upgrading and branding priorities. Concrete measures include:

- Until end-2009, passenger cars with 1.6 litre engines and below will be taxed five percent less. Also, as part of the “Cars to Countryside” program, the government set-up a RMB 5bn fund to subsidize rural residents' purchase of mini, three-wheel, or low-speed vehicles of 1.3 litre engines or less to replace their high emission light vehicles. (The focus on smaller-sized vehicles is an implicit support measure for Chinese independent automakers that have flourished in the small-car market segment.)

³⁵ Dyer, Geoff and Richard McGregor (2008). “China's champions: why state ownership is no longer proving a dead hand”, *Financial Times*, March 17; Dyer, Geoff (2006). “Homegrown groups take a larger share”, *Financial Times*, December 12.

³⁶ Reed, John (2009). “Geely in driving seat to secure Volvo deal”, *Financial Times*, September 8.

³⁷ Neumann, Dan (2008). “Appellate body upholds most of auto parts ruling, reverses on kits”, *Inside US-China Trade*, December 17; Neumann, Dan (2008). “New China autos tax may withstand WTO scrutiny, US sources predict”, *Inside US-China Trade*, September 3; Neumann, Dan (2009). “US, EU Canada press for quick implementation of auto parts ruling”, *Inside US-China Trade*, February 17.

³⁸ *Financial Times* (2009). “China car sales reach record high”, April 9; Waldmeir, Patti (2009). “Chinese car sales jump 90%”, *Financial Times*, September 8.

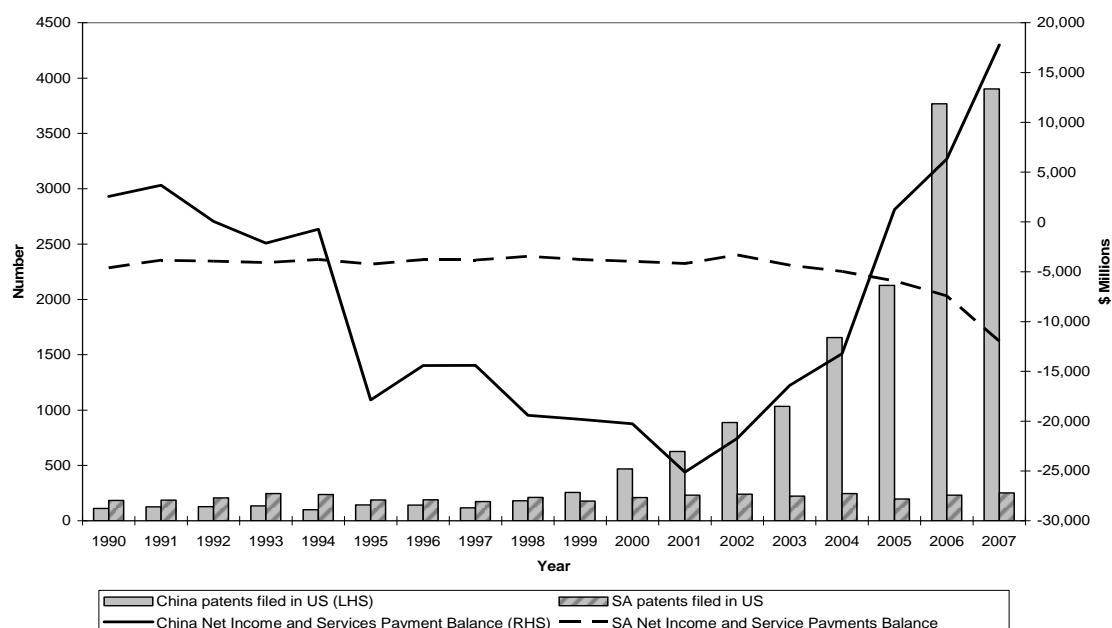
- Government funding for old car replacement program will be expanded from RMB 600m in 2008 to RMB 1bn in 2009.
- Removal of regional and local restrictions and protectionist measures impacting automobile purchases.
- Promotion and standardization of purchase credit financing, including the establishment automobile financing companies, which has been long sought after by foreign companies, is enacted at a time when foreign companies are generally cash-strapped and Chinese firms are cash-flush. Other related measures include strengthening of the second-hand car market and supervision.
- Speed up modernization of comprehensive urban transportation systems.
- For technology upgrading, the central government will form a RMB 10bn fund to improve capabilities in core technologies and parts, including product, conservation, and safety standards. The government also drew up a specific list of “special projects and products” to prioritize upgrading in core technologies and parts.
- Emphasis is also placed on expanding the demonstration of alternative fuel vehicles, such as hybrid, and electric battery cars. Large and medium cities will be supported in plans to adopt alternative fuel vehicles for use in public service areas such as: bus transport, taxi, government, sanitation, postal service, and airports. Building of appropriate electric car infrastructure is also stressed (filling stations and parking lots with recharging equipment).³⁹

FEATURE #8: Technology Policy and Proprietary Knowledge-Based Assets

Another key contributor to building dynamic comparative advantage is the extent of domestic technological investment in upgrading the economic structure of the economy. As the development of domestic proprietary knowledge-based assets is crucial for longer-term growth prospects and competitiveness (as a source of supra-normal profits and royalty rents), domestic investment in technological development is indispensable to create domestic capacity to absorb technology from abroad, especially given that a large proportion of technological knowledge is tacit, and thus not readily available for purchase ‘off the shelf’ from international markets (Hausmann and Rodrik 2006; Memis and Montes 2008:12). Figure 8 presents indicators of technological development by each country (patents filed in US), and the resulting impact of these efforts on the net flow of current account income and service payments (debit and credit) resulting from profits, dividends and royalties.

³⁹ State Council (2009). “Auto sector adjustment and rejuvenation plan”, March 20. See http://www.gov.cn/zwgc/2009-03/20/content_1264324.htm

Figure 8. Patents Filed in US and Net Income and Service Payments, 1990-2007



Source: IFS and US Patent and Trademark Office (USPTO).

In the case of South Africa, the number of patents filed in the US over the years has not changed dramatically. In 1990, 185 SA patents were filed in the US, while in 2007 this figure grew slightly to 252 patents filed. Although reliable domestic SA patent filings by residents and non-residents are not available⁴⁰, the overall impact of this relative dearth of SA-owned proprietary knowledge-based assets is the steady annual outflow of current account service and income payments of roughly \$4bn for much of the 1990-2007 period. By 2004-2005, however, these payment outflows nudged closer towards \$5-6bn, and by 2006-2007, the figure reached \$7.4bn and \$12bn, respectively, apparently heading further into deficit.

Other broad science and technology (S&T) indicators further support SA's generally limited investment in domestic technological development. For instance, SA's gross expenditure on research and development (GERD) in 2004 was 0.87% of GDP. Although this is well below the OECD GERD average, SA's GERD has been on the rise since the low of 1997 when GERD was 0.69% of GDP. In 2002, in efforts to reduce the decline in GERD, the government adopted the National Strategy for Research and Development, which aimed to double government investment in S&T by 2008 and raise the GERD ratio to at least 1%. This GERD level, which would put SA in the same league as Brazil, New Zealand, Spain and the Czech Republic, would bring SA back its early 1990s GERD level, which was largely due to the then-apartheid government's heavy funding of the national military-industrial complex in response to international isolation (OECD 2007a:90-1).

The business sector contributes and performs the bulk of R&D activities; in 2004 the business sector (including state and privatized state firms) funded 45% and performed 58% of total R&D. Although this institutional pattern of R&D activity is more typical of developed than developing countries, the expenditure reflects the economy's relatively high degree of concentration as 72%

⁴⁰ Anecdotal evidence suggests that about 4000 to 5000 foreign-originated patents are registered with the South African Patent Office annually. The DTI's Companies and Intellectual Property Registration Office (CIPRO) estimates that 40% of patent and trademark applications are filed by South African residents. According to the World Intellectual Property Organization (WIPO), in 1999, 99% of patent applications filed in SA were filed by non-residents. (Teljeur 2003:58). See also: Polity (2005). "Global Aspects of Technology Transfer conference", September 4. See, <http://www.polity.org.za/article/hanekom-global-aspects-of-technology-transfer-conference-04092005-2005-09-04>

of business sector's R&D expenditure is performed by large firms, and 20% is carried out by multinational firms.⁴¹ Thus, as a whole, the business sector devotes few resources to innovation activities, only about 2.6% of sales on average, compared to EU average of about 4% (OECD 2007a:99-100, 129). As SA's R&D expenditure is relatively high vis-à-vis other developing countries, at around 2.7 R&D researchers per thousand employees, SA performs rather well in human resources for R&D compared to Argentina at 2, Chile at 1.4, and Brazil at 1.5. R&D intensive OECD countries like Japan, Sweden and Finland have 10.2, 10.6 and 15.8 researchers per thousand employees, respectively. Available statistics indicate that there has been little change in the overall quantity of R&D researchers (in full-time equivalents - FTEs) in SA over the past decade, which has further compounded the shortage of S&T skills needed (OECD 2007a:95, 97).

In terms of SA's intellectual property rights (IPR) framework, its legal and policy regime is arguably among the most legally mature on the African continent and considered at roughly the same standard as most industrialized nations when it comes to membership of international treaties governing IPRs. Given the country's position as a net technology importer with limited success in building domestically-owned proprietary knowledge-based assets, the IPR regime appears ill suited for the country's stage of development by prioritizing minority interests over facilitating broad-based technology dissemination to domestic actors – ie. a reflection of using 'best practice' market institutions as an end in itself rather than as a means to an end. (Teljeur 2003: 50-63)

For instance, patents are given a lifespan of 20 years with annual renewal obligation, in-line with the WTO Trade-Related Intellectual Property Rights (TRIPS) Agreement, which are awarded according to the near-universal 'first-to-file' convention. However, South Africa has no domestic institution to evaluate patent applications on grounds of novelty and non-obviousness, or to limit its scope if the application is unduly wide; CIPRO merely ensures patents are registered as part of its 'depository system'. According to some practitioners, this system of non-examination of patents has led to abuse through the registration of superfluous patents excessively broad in scope, that restrict competition through maintenance of entry barriers, and that ultimately favour big incumbent companies that file a large number of patents, which are granted simply as a matter of formality. (Ibid.)

Also important is the apparent 'advanced' convention of affording protection to established brands to the extent that there is a perception that SA legislators and judiciary are systemically biased in favour of (foreign) owners of IPRs, presumably to breed foreign investor confidence in the country's legal framework, to the detriment of legitimate local imitators. Moreover, even where South Africa has lobbied extensively for inclusion of flexibilities within the TRIPS agreement (such as access to HIV/AIDS anti-retroviral drugs), only in extreme cases does the government resort to (cheaper) parallel imports, while compulsory licensing is generally avoided. (Ibid.)

As seen in Figure 8, in stark contrast to South Africa, China's record of filing for patent rights in the US has changed dramatically. Initially filing 111 patents in 1990, fewer than South Africa, China eventually surpassed South Africa in 1999 with annual patent filings increasing markedly thereafter. By 2007, China's patent filings in the US amounted to 3,903. As China's filing record improved, particularly after 2000, current account service and income payments, which fluctuated since the mid-1990s but generally remained in deficit, were reduced and returned to surplus in 2005 and appear on an upward trend. In China, the Chinese State Intellectual Property Office (SIPO) have seen domestic patent applications increase steadily over the 1995-2005 period,

⁴¹ In 2002, the top four business groups collectively controlled 60% of Johannesburg Stock Exchange market capitalization, although this figure was significantly down from 80% in the early 1990s, and governed a very large share of all technology development and innovation by private sector business. For instance, previous research indicates that the top 12 R&D performing firms account for 58% of business sector R&D expenditure, and the top quintile for 86%. (OECD 2008:80; OECD 2007a:88, 159).

rising from about 70,000 in 1995 to 390,000 in 2005. Foreign patent applications grew less rapidly, from roughly 20,000 to 90,000 over the same period (OECD 2007b:32).

As for investment in technological capacity, R&D expenditure to GDP more than doubled from a level of 0.5% in the 1990s before rising progressively to 1.3% of GDP in 2003, just shy of the 1.5% goal stated in the 10th Five-Year Plan (2001-2005) (OECD 2007:23; Walsh 2003:62; Walsh 2005:101-102). Moreover, R&D expenditure has been increasingly conducted by enterprises as opposed to directly by government institutes and universities. For instance, the share of R&D spending by government institutes fell from 43.2% in 1994 to 29% in 2000; whereas enterprise R&D has doubled over the same period, from contributing 34.2% in 1994 to 60% in 2000 (Naughton 2003:19-20; Dahlman and Aubert 2001:125). Although these statistics are not exceptional by advanced industrial country standards, they are impressive when compared to other developing countries and certainly reflect favourable conditions for the deepening of technological capabilities (Gabriele 2001:16).⁴²

China has also made concerted and largely successful efforts to mobilize domestic human resources in upgrading the technological level of its economy. Lack of comparable data makes international benchmarking difficult, but broad indicators suggest a rising trend in the supply of skilled R&D personnel. For instance, between 1997 and 2002, R&D personnel figures (measured in 1000 FTEs) rose from 831.2 to 1035.1. As for scientists and engineers, figures (again in 1000 FTEs) similarly rose from 588.7 to 810.5, over the same period (Seong et al. 2005:37; OECD 2007b:28). Despite apparent success in building a pool of R&D personnel, issues over quality reveal ongoing human resource bottlenecks in the Chinese innovation system. Other measures, such as tapping into the reservoir of overseas Chinese via preferential consular treatment, tax incentives, project funding, and dedicated development parks and incubators, have also been aimed at alleviating skills shortages (OECD 2007b:29).

China's IPR regime has undergone substantial changes post-WTO accession to gradually bring China inline with international standards. As the IPR regime evolved over the past three decades, China's framework of laws, regulations and implementing rules are seen as largely satisfactory, on paper. In practice, many observers see law enforcement (administrative, civil, and criminal) as the biggest problem affecting China's IPR regime. For instance, high thresholds for criminal prosecution limit the severity of enforcement measures, while light-handed civil damages and toothless administrative penalties provide no real deterrence to infringement. (USTR 2007:78; Stewart et al. 2007:116)

In June 2008, the Chinese government released the *Outline of National Intellectual Property Rights*, a new national IP strategy.⁴³ While the strategy brings China closer to international conventions, some controversial details have also surfaced. For instance, proposed changes to China's patent law will require foreign companies making discoveries in the country to file for a patent in China first or risk losing legal protection of their intellectual property. Most western countries also have a "file first at home" rule but the penalty for failing to do so will be tougher in China. Failure to register Chinese discoveries first in China, will allow rivals to challenge the validity of any subsequent domestic patent and potentially block sales in the local market.⁴⁴ If the revisions are adopted, foreign companies would have to draft patents in Chinese for inventions

⁴² Shichor, Yitzhak (2006). 'China's Revolution in Higher Education', *China Brief*, The Jamestown Foundation, Vol.6 Iss.5, March 2. See, http://www.jamestown.org/programs/chinabrief/single/?tx_ttnews%5Btt_news%5D=3934&tx_ttnews%5BbackPid%5D=196&no_cache=1

⁴³ Wang Qishan (2008). "No More Chinese Knock-Offs", *Wall Street Journal*, June 17.

⁴⁴ Most foreign companies that invent in China currently file for patent protection in the country in which they are based, where applications can be written in their native language by counsel experienced in the home country's patent law. It has been known for multinational companies to send Chinese inventors to work temporarily in their home country, so that key patents can be filed overseas to prevent early disclosure to Chinese rivals.

made in the country at a time when foreign companies are increasingly setting up research centres in China and trying to expand sales in the market.

The new IP strategy also involves the adoption of an “absolute novelty” standard that will limit the issue of Chinese patents for inventions that are already in use overseas. This should make it easier for foreign companies to challenge rogue Chinese patents that make use of less stringent filing standards. In 2007, China’s State Intellectual Property Office (SIPO) received nearly 700,000 patent applications, placing China far ahead of both the US and Japan, which received under 500,000 domestic patent filings each. Of this total, the bulk of filings are so-called “mini-patents”, which give 10 years’ protection with less cost and fuss – ie. scarce investigation of claims - than the 20-year protection otherwise standard abroad.⁴⁵

Further underpinning a shift towards so-styled “indigenous innovation” announced as part of the 10th Five-Year Plan (2001-2005), China has sought to leverage its market size and its own technological assets in fostering innovation to shape the ‘architecture’ of global technology standard-setting through the development of its own national technology standards. Often concurrently used as an IPR negotiations tactic to lower royalty payments, ultimately the long term goal is to reduce dependence on foreign core technologies and know-how to enhance the competitiveness of Chinese firms. An official report released in 2006 calls for China to move from a net importer and consumer of international standards to that of producer of standards for domestic and international consumption by 2020. (Suttmeier et al. 2006; Kennedy 2006; Suttmeier and Yao 2004; Naughton 2004)

FEATURE #9: Regulatory State: Independent or Developmental?

Underlying many of the features discussed in this first section is the regulatory regime informing the policy orientation of decision-makers. To frame the different paths to regulatory reform, it is useful to frame the discussion as a spectrum of policy orientations with the idealized Anglo-American independent regulatory system at one end and the idealized Japanese (East Asian) developmental system at the other (Pearson 2005). Following a brief outline of this spectrum, both countries’ respective competition policy regime will be examined.

In terms of the former, the ‘independent regulator’ institutional model has emerged as the global ‘best practice’, promoted forcefully by international organizations and donor agencies, and widely applied in developed and developing countries alike. In its ideal conception, the regulator is at arms-length and impartial from the business interests that it oversees, even state-owned entities. Moreover, the regulator is politically independent/neutral with substantial autonomy from political organs like the executive or legislature. Political mandates and objectives are no less important, but the model seeks to prevent ad hoc political interference with established regulatory rules from agencies without clear authority. For instance, the narrow focus of regulators on indicators and rules such as quarterly profits and share price gains, rather than the nature and capacities of particular market players, gave rise to the short-term horizon of ‘Anglo-American’-style of corporate governance.⁴⁶

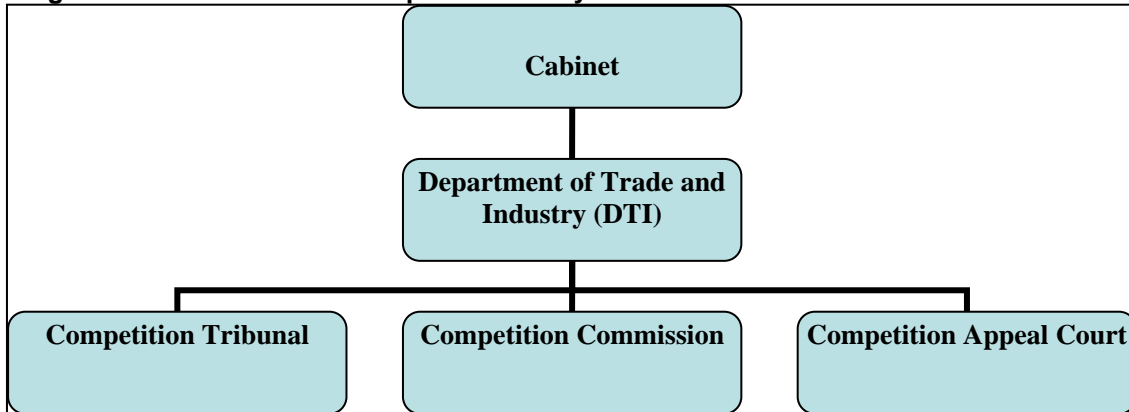
In contrast, the DS model accepts significant government intervention to structure markets, usually in favour of particular firms in strategic economic and social sectors. These firms are not always state-owned, but usually have close ties to government bureaucracy given the model’s preference for long term investments, as well as controlled competition and market stability. As such, the government is very much engaged with specific market actors to bolster their

⁴⁵ Waldmeir, Patti (2008). “Beijing eyes tighter law for foreign companies”, *Financial Times*, July 3; Waldmeir, Patti (2008). “The value of branding becomes patent”, *Financial Times*, July 3; Otteman, Scott (2008). “Foreign Firms Look to IPR Strategy to Unleash Wave of Regulations”, *Inside US-China Trade*, May 14; Dickie, Mure (2006). “China seeks home-grown innovation”, *Financial Times*, October 4; Inside US-China Trade (2008). “U.S., China Battle to Define ‘Commercial Scale’ Piracy in WTO IPR Case”, May 7.

⁴⁶ Guerrero, Francesco (2009). “Welch condemns share price focus”, *Financial Times*, March 12.

international competitiveness – ie. in fostering ‘national champions’. Institutionally, regulators of the DS model are generally highly centralized with strong capacities in analyzing, formulating, implementing and evaluating industrial policy. The bureaucracy is relatively free from political (mostly legislative) oversight, with little public accountability or transparency, but also with relatively little overt political meddling due to its generally ‘technocratic’ predisposition.

Diagram 9a. South African Competition Policy Institutional Framework



As seen in Diagram 9a, South Africa’s competition policy regime is divided amongst three institutions, as provided in the Competition Act of 1998. The Act established a Competition Commission with the mandate to determine and investigate cases under the Act, and a Competition Tribunal to adjudicate on these cases. A Competition Appeal Court was also established to consider any appeal from, or review of, a decision of the Competition Tribunal. These institutions are subsumed under the jurisdiction of the DTI, which in turn reports to the Cabinet.

While seen as an improvement from the ineffective Competition Board that merely existed as an administrative body and that was ultimately replaced by the current competition policy institutions, the main impact of the Competition Act of 1998 was the introduction of compulsory pre-merger notification for all deals above specific thresholds. In creating a separation of powers with three new institutions, the government also wanted to ensure limited room for discretionary decision making, emphasizing high thresholds and institutional checks and balances that “reflects a preoccupation with international ‘best practice’ that tends to ignore the experiences of industrialising countries and the diversity in competition regimes in developed economies.” (Roberts 2004:7,15)

As with most such legislation, the Competition Act contains two main areas: mergers and acquisitions, and prohibited practices which can be further sub-divided into restrictive practices – either horizontal or vertical – and abuse of dominant position. Latter sections of the Act set forth the regulatory framework of the competition institutions, relatively wide powers of search and seizure, administrative penalties, as well as provisions to appeal rulings. For instance, in response to anti-competitive behaviour, the Competition Tribunal may impose an administrative penalty that does not exceed 10% of the firm’s annual turnover in South Africa and its exports from South Africa in the firm’s preceding financial year.⁴⁷ (GSA 1998:73) To further beef up the Act, a recent amendment allows corporate directors or managers to be held criminally liable if they cause the firm to engage in cartel conduct or knowingly acquiesce to such behaviour.

⁴⁷ According to the Competition Commission’s Corporate Leniency Policy, immunity from prosecution may be granted to a self-confessing cartel member if it is the first to assist in the detection and investigation in cartel conduct. Granting of immunity, however, does not fully protect the cartel member from prosecution, as complaints can either file to have leniency voided or to pursue civil damages against the cartellists. [Wentzel, Webber (2009). “Competition Amendment Act signed into Law”, *Polity*, September 11. See, <http://www.polity.org.za/article/competition-amendment-act-signed-into-law---september-2009-2009-09-11>]

Punishment includes: a fine not exceeding R500 000; or imprisonment for fewer than 10 years; or both a fine and imprisonment.

i) Restrictive practices: Under the Act, restrictive practices cover both horizontal and vertical monopoly agreements. Prohibited horizontal agreements include price-fixing, market division, and collusive tendering. Vertical monopoly agreements include minimum resale price-fixing. Importantly, however, horizontal and vertical agreements are deemed anti-competitive only if they have the effect of substantially preventing, or lessening competition in a market, unless a party to the agreement can prove that the technological, efficiency or other pro-competitive gain resulting from the agreement outweighs the anti-competitive loss. (Ibid:14-6) Such qualifications have led some observers to note that, "When the criteria set out in the Act for the evaluation of cases are examined, it is evident that economic efficiency is the overriding principle." (Roberts 2004:7)

ii) Dominant position: Under the Act, a firm has a dominant market position if it is able to engage in exclusionary acts such as charge excessive prices, discriminate between purchasers, or if it can block other firms' access to relevant markets and inputs. Key considerations include that of market shares, where a firm is deemed dominant in a market if: a) it has at least 45% of that market; b) has at least 35% but less than 45% of that market (unless it can be shown that the firm has no market power); and c) it has less than 35% of that market, but has market power. However, as is the case with restrictive practices, many of the provisions in this section can be waived if it is proved that technological, efficiency or other gains more than offset the anti-competitive losses. (GSA 1998:17)

Also worth highlighting is the provision that, in-line with international standards, a firm is deemed to have a dominant position if it refuses to give a competitor access to an 'essential facility' when it is economically feasible to do so. 'Essential facility' is defined in the Act as, "an infrastructure or resource that cannot reasonably be duplicated, and without access to which competitors cannot reasonably provide goods or services to their customers." (Ibid:8,17)

iii) M&A: According to the Act, mergers (defined when one or more firms directly or indirectly acquire or establish direct or indirect control over the whole or part of the business of another firm) are classified according to threshold transaction values: small (<R560m), intermediate (R560m<R6.6bn) and large (>6.6bn), in terms of combined annual turnover and assets in, into or from South Africa. Or, in terms of the individual South African target firm: small (<R80m), intermediate (R80m<190m), and large (>190m). Only the latter two classifications require notifying the Competition Commission, whereby the government then has 20 business days to review the transaction, with a possible extension of another 40 business days (DTI 2009). Previously, merger notification thresholds were lower: small (<R200m), intermediate (R200m<R3.5bn), large (>R3.5bn), for combined figure, with generally 98% of notified mergers approved under this regime.⁴⁸

Factors to be considered in determining whether a merger will be anti-competitive include, for example, the actual/potential level of import competition in the market, the ease of entry into the market (including tariff and regulatory barriers), the level and trends of concentration and history of collusion in the market, the nature and extent of vertical integration in the market, and whether the merger will result in the removal of an effective competitor. The Act also specifies evaluating mergers on public interest grounds in considering the effect on:

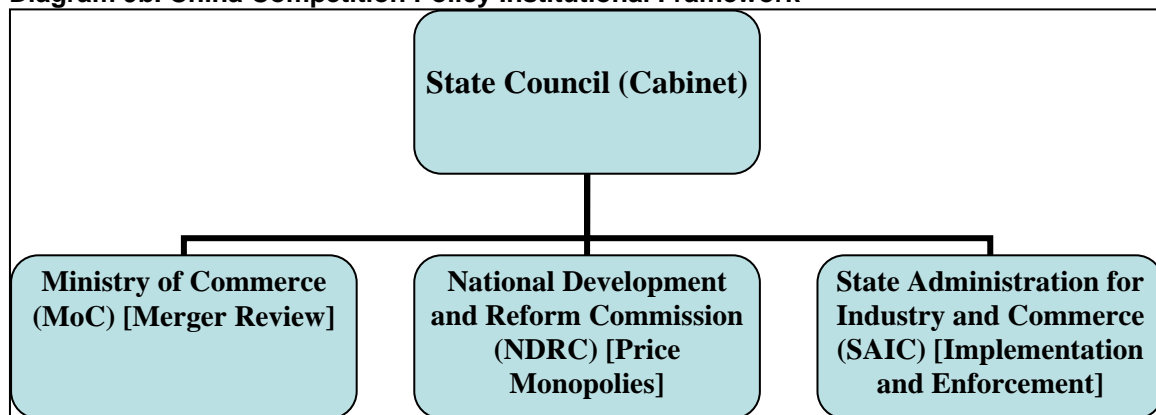
- A particular industrial sector or region;
- Employment;
- The ability of small businesses or firms controlled or owned by historically disadvantaged persons, to become competitive;

⁴⁸ Temkin, Sanchia (2008). "State increases merger thresholds", *Business Day*, October 20. See, <http://www.businessday.co.za/Articles/Content.aspx?id=55217>

- The ability of national industries to compete in international markets.

However, as is the case for restrictive practices and dominant position, assessing the effects of merger transactions needs to be weighed against any technological, efficiency or other pro-competitive gain that could be greater than, or offset any anti-competitive impact from the merger. Generally, since the inception of the Act, Roberts notes the predominant focus of competition institutions on merger evaluation rather than regulating firm conduct. Between September 1999 and March 2002, the Commission received a total of 958 merger notifications of which 36 were large and where Commission submitted a recommendation to the Tribunal. In contrast, over the same period, the Commission received 329 complaints of prohibited practices, but very few have been referred to the Competition Tribunal for adjudication (Roberts 2004:8,10). Recent years have seen a slew of investigations in key inputs such as steel, construction, cement and fertilizer sectors as well as in key food inputs like wheat, maize, dairy, poultry, baking and milling, and food retailing, perhaps suggesting a shift in institutional focus aimed at uncompetitive corporate behaviour. (Roberts 2009; Kirsten 2008)⁴⁹

Diagram 9b. China Competition Policy Institutional Framework



In late August 2007, the Standing Committee of the 10th NPC adopted the Anti-Monopoly Law, China's first comprehensive competition law. After 13 years of debate, the final adoption of the AML is a landmark in China's market-economy transition. Largely neutral on its face, the AML contains deliberate provision with uniquely Chinese characteristics, and their impact will ultimately depend on how Beijing authorities choose to enforce the new law and its relative treatment of foreign multinationals and domestic industry. Institutionally, as seen in Diagram 9b, the cabinet plays a more direct role in overseeing competition policy, as the State Administration for Industry and Commerce (SAIC) is responsible for implementing and enforcing the AML except those aspects dealing with M&A, which falls within the jurisdiction of the Ministry of Commerce (MoC), and those related to price monopolies, to be handled by the National Development and Reform Commission (NDRC).⁵⁰

⁴⁹ Hartley, Wyndham (2009). "Patel warns of blitz against fraud, rigging by business", *Business Day*, August 21. See, <http://www.businessday.co.za/Articles/Content.aspx?id=79165>; Lewis, Davis (2008). "Critical task of ensuring state walks the talk on competition", *Business Day*, September 9. See, <http://www.businessday.co.za/Articles/Content.aspx?id=81003>; Mail & Guardian (2009). "Competition commission to continue dairy probe", August 26. See, <http://www.mg.co.za/article/2009-08-26-competition-commission-to-continue-dairy-probe>; M&G (2009). "Competition Commission raids cement producers", June 25. See, <http://www.mg.co.za/article/2009-06-25-competition-commission-raids-cement-producers>; Gedye, Lloyd (2009). "Steel price rigging 101", *Mail & Guardian*, September 4. See, <http://www.mg.co.za/article/2009-09-04-steel-price-rigging-101>; Sherry, Shannon (2009). "In the fertilizer again", *Financial Mail*, May 29.

⁵⁰ Unless otherwise indicated, this sub-section is based on: Bush (2007; 2008); Wang and Zhang (2008); Wei, Jun and Janet L. McDavid (2007). "China's Anti-Monopoly Law", *The National Law Journal*, vol.30 iss.7; October 15; Wang, Peter (2008). "New Chinese Anti-Monopoly Law", *Mondaq Business Briefing*, October 16; Otteman, Scott (2007). "Investment Rules Increasingly Favor Domestic Firms", *Inside US-China Trade*, vol.7 no.25, June 20; Tang, David

Effective August 2008 with draft implementation rules issued for consultation in April 2009, the AML's general structure includes four substantive sections that: **i)** prohibit certain types of monopoly agreements (unless specifically exempted); **ii)** establish a framework for determining when abuse of dominant market position exists; **iii)** outlining a broadly defined merger review scheme; and **iv)** prohibit abuse of government administrative powers restraining competition, particularly between regions, while exempting SOEs from anti-trust provisions. Latter section sets forth wide powers of investigation and penalties for noncompliance, as well as provisions for appealing anti-trust rulings.⁵¹

i) Monopoly agreements: Under the AML, this includes both horizontal and vertical monopoly agreements. Prohibited horizontal agreements include price-fixing; output or sales volume restrictions; market division; restricting the purchase or development of new technology, equipment or products; and boycotts. Vertical monopoly agreements include minimum resale price-fixing. However, some observers have expressed concern that prohibiting agreements that "limit the purchase of new technology" may restrict the ability of intellectual property rights owners to license their intellectual property rights on terms that may seem reasonable to them but not to potential Chinese licensees or the Chinese government. Exemptions found in the law may offer some protection, but licensors may find it difficult to satisfy the conditions for exemption, such as that the agreement "enables the consumer to share the benefits derived" from the agreement, and the law appears to place the burden of proof on licensors.

ii) Dominant position: Under the AML, a commercial entity has a dominant market position if it is able to control the price or quantity of goods, or if it can block or affect other entities' access to the relevant market. Relevant factors include market share and entry barriers -- a dominant position is presumed from a 50% market share from a single firm, 66% market share for two firms, or 75% market share for 3 firms. A position of dominance may also be found even in cases where the individual firm has market share of below 50%, but above 10%. Cases of dominant market abuse include sales at an unfairly high price or below cost, purchases at an unfairly low price, refusing to trade, tie-in sales, exclusive dealing and other discriminatory treatment.

"Supplementary provisions" of the AML specifically state that anti-trust rules do not apply to efforts by firms to protect their legitimate intellectual property rights in accordance with IP laws and regulations, although it does apply to "abuses" of IP rights to eliminate or restrict market competition. As seen in draft implementation rules, market dominance and the factors for its determination are defined. Among the six determinants outlined, market dominance derived from "technological condition" includes consideration of intellectual property rights, R&D, technological equipment, innovation and utilization capabilities (SAIC 2009 Article 5, ss.3). In stark contrast to South Africa, China's definition of 'essential facility' is at odds with standards US and European anti-trust regulation by the inclusion of intellectual property considerations. With "unreasonable" royalties for foreign patent holders (particularly in high-tech industries) a common complaint of Chinese industry groups and regulators, foreign investors worry that firms deemed "dominant"

(2007). "The PRC's New Antimonopoly Law Has A Long Way To Go", Mondaq Business Briefing, November 14; Speares, Sandra (2008). "Wise up on new monopoly law", *Lloyd's List*, April 30; Davis, Avram (2008). "Clarity Coming to China's M&A Market?" *Investment Dealers Digest*, May 12; EIU (2008). "China: Competition and price regulations", March 25; *International Financial Law Review* (2008). "Anti-monopoly law could turn China protectionist", March 1; Tucker, Sundeep and Patti Waldmeir (2008). "Deals on hold?", *Financial Times*, July 29; Otteman, Scott (2009). "China anti-monopoly rules deem IPR as factor in dominating markets", *Inside US-China Trade*, May 13.

⁵¹ Similar to South African competition legislation, China's AML contains vague leniency provisions to reduce or exempt from penalty a company that reports and provides material evidence of prohibited practices on its own initiative. The article, however, does not specify whether leniency will be granted, specific conditions to be met to gain leniency, or the extent of corresponding reduction in penalties.

might be threatened with actions, such as compulsory licensing, for abuse based on their refusal to license or extraction of unfairly high royalties.⁵²

biii) Concentrations: Under the AML, “concentrations” (defined as mergers, acquisitions of shares or assets, and contracts to acquire control over other firms) must be notified prior to being finalized. Undertakings involved in such transactions must make advance filings and await clearance prior to closing. All filings are subject to an initial 30-day review period and a possible additional 90-day investigation (extendable by a further 60 days under certain circumstances). The factors to be considered include the market shares of the involved parties, the degree of concentration in the relevant market, and the effect of the concentration on consumers, entry barriers, technological progress, and “the development of the national economy”. Deals must be filed in advance for approval if (relatively low) thresholds are attained: each party has a turnover of Rmb400m (\$60m, £30m, €38m) in China as well as total global turnover of Rmb10bn or combined turnover in China of Rmb2bn.

Provisions in this chapter of the AML also consider the effects of “monopolistic conduct outside the territory of the PRC that has eliminative or restrictive effects on competition in the domestic market of the PRC”. This raises questions of the extraterritoriality application of Chinese anti-trust laws beyond its borders and the possibility of Beijing as a third sphere of regulatory influence, matching the anti-trust powers of Brussels and Washington. These provisions, for instance, could influence Microsoft’s possible takeover of Yahoo since the latter company invested US\$ 1bn in Alibaba.com, China’s largest e-commerce business, representing roughly a 40% stake in the Chinese company. Other recent cases include imposed restrictions on global mergers between Japan’s Mitsubishi Rayon and UK’s Lucite International, forcing the latter to sell half of its production of one polymer at cost.⁵³

iv) Abuse of administrative power: Found in Chapter V of the new law, these provisions do not apply to private actors, but to “administrative agencies and organizations empowered by laws or regulations with responsibility for the administration of public affairs”, particularly relating to regional jurisdictions. Common tactics of local protectionism, such as discriminatory taxes, fees, charges, licensing and inspection requirement, local content requirements, and checkpoints have been banned. Other provisions prohibit discrimination against parties from other regions in public tendering processes, in the approval of new branches or investments. Seen in combination with provisions allowing for significant flexibility in the treatment of SOEs under the AML, the focus on administrative abuses appears targeted to override local government protection of local firms and employment to the detriment of greater inter-provincial competition and trade, and ultimately greater economies of scale across regional jurisdictions.

FEATURE #10: The Bottom Line: Wages and Productivity

Many features described thus far illustrate very different developmental trajectories between China and South Africa. While these processes continue, it is whether economic-wide productivity gains from upgraded productive capacities are translated into rising wages and improved standards of living that ultimately determine the overall direction that these countries are moving (Akyuz and Gore 1996). This is akin to Alice Amsden’s conceptual ‘control mechanism’ of reciprocity, “which disciplined subsidy recipients and thereby minimized government failures” (Amsden 1999:6), so that preferential policies were used to build productive capacities that laid the foundations for prosperity for society as a whole.

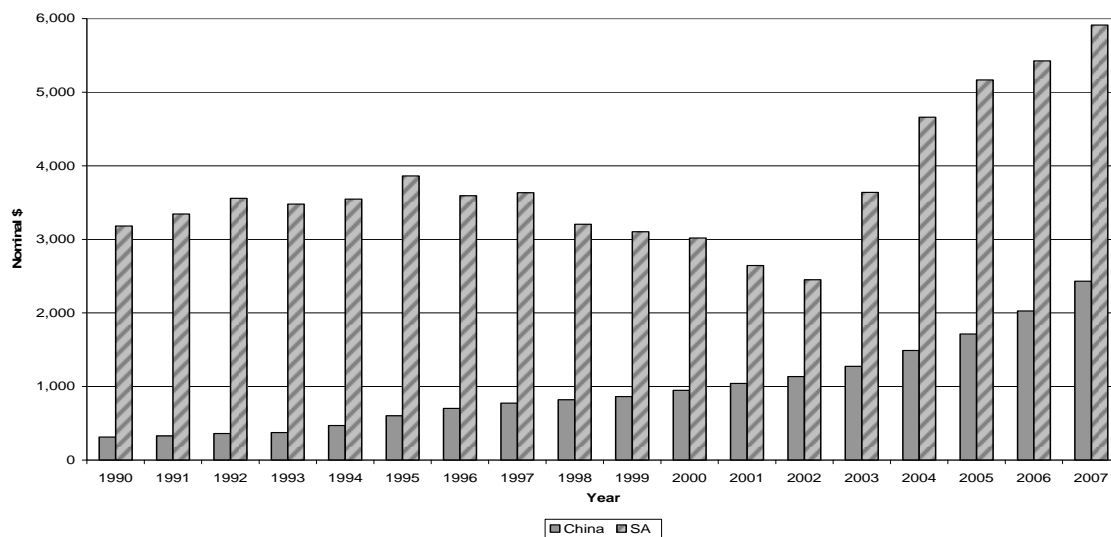
⁵² Penalties for market dominance abuse will vary between one and ten percent of annual turnover, to be determined by SAIC. (SAIC 2009: Article 16)

⁵³ Markoff, John (2008). “China law could impede Microsoft deal”, *International Herald Tribune*, March 28. See, <http://www.iht.com/articles/2008/03/28/technology/28yahoo.php>; Tucker, Sundeep and Patti Waldmeir (2009). “Lawyers warn on China’s monopoly regime”, *Financial Times*, May 4; *Financial Times* (2009). “Antitrust in China” *Financial Times*, May 4.

Memis and Montes, provide a wider measure of evaluating the outcomes of economic policy configurations:

National competitiveness is not measured in terms of export growth or the balance of trade, but in the rising productivity, particularly in of the labour force, and domestic living standards. Increased capital intensity of manufacturing will increase the productivity of the employed labour force, but not necessarily of the national labour force. In the extreme case, though this did not happen in East Asia, there would be no increase in national labour force productivity if there were large job losses as a result of changes in the manufacturing product mix and/or diminished labour intensity. Industrial policy can be applied toward paying greater attention to building domestic incomes and enlarging the size of the domestic market, avoiding prematurely sharp changes in the structure and production methods in the manufacturing sector. (2008:22-3)

Figure 10. Nominal Per Capita GDP, 1990-2007



Source: WDI.

Figure 10 shows South African nominal GDP per capita at over \$3,000 in 1990, doubling to just under \$6,000 by 2007, a level generally accepted for middle-income countries. China's GDP per capita, on the other hand, starts from a much lower level – roughly \$300 in 1990 – increasingly steadily to over \$2400 by 2007 and pushing China into middle-income country status. However, these figures are somewhat illusory of general domestic conditions, for a few reasons.

First, South Africa and China have both become highly unequal in terms of incomes earned by different portions of their populations. Statistics in this area are limited, but South Africa has made limited headway in dealing with inequality, its Gini coefficient is just under 0.60 in 2000, roughly where it was back in 1995, and recognized as one of the most unequal societies in the world (OECD 2008:32).⁵⁴ China has also become increasingly unequal, its Gini coefficient rising from 0.28 in 1981 to an estimated 0.42 in 2006, although inequality trends did fall in the early 1980s, the mid-1990s, and looks set to fall again due to sizable government regional development programs (Ravallion 2008; Ravallion and Chen 2004).⁵⁵

⁵⁴ Ensor, Linda (2009). "SA grabs inequality top spot", *Business Day*, September 26. See, <http://www.businessday.co.za/Articles/Content.aspx?id=82446>; Sidiropoulos, Elizabeth and Lyal White (2009). "How Brazil beats poverty trap", *Mail & Guardian*, August 21 to 27. See, <http://www.mg.co.za/article/2009-08-25-how-brazil-beats-poverty-trap>

⁵⁵ Dyer, Geoff (2008). "Brazil's lesson for China: do not ignore inequality", *Financial Times*, March 3.

Second, it should also be noted that in terms of contribution, commodities and natural resources account for a larger proportion of domestic economic production and export in South Africa than in China. With a commodities price boom taking off in the early- to mid-2000s, South Africa's nominal GDP per capita performance recovered from a post-Asian crisis fallout that left it at a level lower than in 1990, but that is likely inflated by higher prices rather than significant changes and increases in productive capacity (Frankel 2008). On the other hand, being the 'workshop of the world' and a net importer of raw commodities and natural resources, China's economic output and export is dominated by processed and finished goods, thus leaving its GDP per capita value less directly exposed to fluctuations in international prices. Of course, China's continued march upward in GDP per capita is heavily dependent on raw materials for processing and manufacturing, leading the Chinese government on a 'Go Out' push to more forcefully secure resource supplies internationally.

In terms of the relationship between real wages and productivity, the link appears much more forceful in China's rather than South Africa's case. In South Africa, real wage growth has generally followed productivity growth, although both rates have been in the low, single-digit level. For instance, for three decades from 1970 to 2002, average year-on-year productivity growth was 0.30%, 0.22%, and 3.38% for each decade, while average year-on-year real wage growth was -0.40%, 0.26%, and 2.04%, for each decade (Wakeford 2003:8-9).

As for real wage and productivity gains in the manufacturing sector in particular, between 1980 and 2008, the average annual growth rate of labour productivity was 1.87%, while the average annual growth rate in real wages was 0.37%. Between 1990 and 2008, the average annual growth rates were somewhat higher: 3.34% for productivity and 2.08% for real wages. Between 2000 and 2008, the growth rates were: 3.85% for productivity and 2.28% for real wages (Quantec calculations). Thus, while real wage growth rates appear to better track alongside productivity growth rates, these remain generally too meager to have an impact on national income levels, and (given high inequality and unemployment levels) broad-based standards of living.

By comparison, although the availability of Chinese real wage and productivity statistics is limited, studies generally show double-digit increases for these indicators for much of the time period under examination. For instance, a Conference Board report surveying 23,000 large and medium sized industrial firms from 1995 to 2003 found labor productivity growth expanded at an annual rate of 20.4% (Deng et al. 2007:9). Official wage data shows an average annual nominal increase of 15% in urban wages since the mid-1980s, roughly comparative to nominal GDP growth over the same period. Although inflation has periodically spiked since the 1980s, its level has generally remained low, thus making nominal wages roughly match real wages. Other estimates of real wage growth point out that official numbers over-represent the state sector and under-represent the private sector, thus exaggerating overall wage figures.

For example, based on their own calculations, Standard Chartered Bank analysis suggests that rather than real wages rising 15% in 2006, they more likely rose 7-8% that year. With wages set to rise 10-15% in 2008 and inflation around 4-5%, real wages will register at around 6-10%. As real wage growth increases have lagged labour productivity growth rates, not only is there more scope to increase wages even more, but the cost of labour in China has actually fallen. (Green 2008:10,14,18; Banister 2009; Banister 2006; Flassbeck 2005)

Part II: Policy Options for the Pragmatic

In light of the analysis in Part I, the features explored above of the DS model reveal the very different developmental trajectories taken by China/East Asia versus South Africa and their respective approaches on matters of: macroeconomic management, domestic/foreign resource mobilization and productive capacity building, sectoral strategies, technology and intellectual property rights policies, and institutional regulatory frameworks.

Rather than merely accept status quo conditions, or contemplate a sudden 'sea-change' in policy-making, this section emphasizes the need to pragmatically sequence DS-based policy reforms in order to boost South Africa's developmental trajectory and to avoid drastic policy prescriptions that may be needed, but for which the economy is not well prepared and may cause adverse financial market responses and real economy repercussions that will only further undermine public support for DS reform. Despite these risks, however, other emerging economies, including Brazil and India, have shown increasing willingness to experiment with DS-type frameworks and policies that are deemed strategic for their long-term development prospects. The timing of events for these countries is hardly surprising – partially due to past policy failures with laissez-faire economic reforms, and partially a result of ongoing global crisis conditions leading to extraordinary interventionist measures in advanced industrialized nations – South Africa would be wise to use this rare opportunity to also regain policy-space, strengthen institutions and revamp its developmental model.

At this juncture, skeptics of government intervention argue that carrying out effective industrial policy has very demanding institutional prerequisites, a feature generally in limited supply in South Africa, if not in all developing countries. Following this train of thought, "where the institutional base is weak, the risks of government failure and the squandering of public resources are enhanced." (Kaplan 2008:37; WB 1993) Although the logic is viable, a more nuanced understanding of East Asian development injects a historical reading into the gradual process of bureaucratic reform as East Asian DS governments were not, simply put, born 'competent'.

In China's case, from a communist command economy, the country has made major strides towards greater degrees of market orientation and mechanisms. Aside from a large-scale privatization program throughout the economy, the bureaucracy has undergone four major restructurings that generally track its developmental trajectory from agricultural to industrial/infrastructural and services.⁵⁶ Nonetheless, the Chinese economy cannot be said to be without continuing large-scale issues of corruption and scandal. As Minxin Pei scathingly warned, "Beijing's brand of authoritarian politics is spawning a dangerous mix of crony capitalism, rampant corruption, and widening inequality." (Pei 2006:34) Nonetheless, other notable analysts detected a slight evolution in China's brand of political and corporate governance. Arthur Kroeber, recently commented in the *Financial Times*:

There is no question that corruption is widespread in China. It is also true that corruption in China has generally been of the lubricating rather than the destructive kind: it more resembles the monumental corruption of America's late 19th-century Gilded Age, which was a concomitant of rapid economic growth, than the kleptocratic, zero-sum corruption that has destroyed many African countries. The decision to keep much of the economy in the hands of state corporations run by an increasingly professionalised cadre of technocrats, though much derided by free-market purists, was also in part a conscious attempt to avoid the growth of a private tycoon elite - as in Latin America or south-east Asia - that could capture the political system and use it to protect their own privileges rather than to foster broad development goals.⁵⁷

Peter Evans' concept of 'embedded autonomy' (Kaplan 2008:39) recognized the importance of independent government institutional capacity in East Asia, but called its romanticized idealization by some intellectuals and policy-makers, the "myth of the super-bureaucracy":

⁵⁶ See: American Chamber of Commerce in China (2003). "What the New State Council Means for Business", China Brief No.5. See, <http://www.amcham-china.org.cn/amcham/show/content.php?Id=133&menuid=04&submid=04&PHPSESSID=47bfd00d36592b00599e9bd0f29cf92>; Batson, Andrew and Shai Oster (2008). "Beijing Reorders Priorities – New Attention Given to Environment, Services", March 12; Dickie, Mure and Richard McGregor (2008). Beijing unveils ministry shake-up", March 12

⁵⁷ Kroeber, Arthur (2007). "The underestimated party-state", *Financial Times*, February 26

The lesson from East Asia is not that other developing countries must be able to count on impeccable bureaucracies in order to move forward, it is rather that they must be willing to invest resources, both political and economic, in the construction of a capable state apparatus. A clear commitment to reforming the bureaucracy, and a willingness to devote continual effort to preserving its competence lay at the root of East Asia's success. (Evans 1998:79)

The crux of the 'lessons learned' approach used in this paper to propose policy proposals, thus, is also more nuanced. As Evans again explains:

Other countries will have to use East Asian models as creatively as East Asians used the models that their American advisors presented them with in the 1950s. ...

Once the idea of transferable lessons is understood as an invitation to *indigenous innovation that takes advantage of the underlying analytical logic of East Asian institutions*, the possibility of exploiting of the East Asian experience becomes thoroughly plausible. (Ibid.) [Emphasis added]

In this way, earnest efforts at industrial policy should be seen where government learning, not government minimizing, is the object (Bruton 1998:925). This is tantamount to Rodrik's almost desperate plea that governments are "better to experiment [with industrial policy] and identify these higher-end activities than not try at all." (Rodrik 2006b:21)

Admittedly, however, under present conditions, China and East Asia's regional experience and empirical indices can act only as a rough benchmark or reference point for South Africa given the vastly different starting points, ideologies, and approaches to economic policy that were at play during their respective reform years. While East Asia demonstrates the direction in which many other developing countries would like to move, many of the policy tools and flexibilities used by the former group are either no longer available to the latter group under today's global trade regime, beyond the government's budgetary and/or institutional capacity, or simply out of political vogue and in voluntary disuse.

For purposes of country comparison, this section also keeps an eye on *indigenous institutional innovations* used in Latin America for possible economic policy prescriptions aimed at a sustained developmental growth path. The policy linkages between the Latin American and African regions is likely to be more conducive given closer similarities in the degree of openness to and reliance on foreign capital and trade – due to relatively rapid liberalization and privatization reform experiences (vis-à-vis East Asia) – as well as in similar structural characteristics relating to largely resource-based economies with highly skewed income distribution patterns, relatively weak government institutional capacities and recently stabilized democratic political heritage.

The remainder of this section explores policy prescriptions and institutional innovations that can help to systematically address the severe South African development bottlenecks reviewed in Part I. If nothing else, this section aims to stimulate pragmatic yet creative strategic policy thinking in four key aspects of South Africa's developmental quagmire: 1) exposure to speculative foreign capital flows; 2) exchange rate and foreign reserves; 3) national savings; and 4) allocation of capital.

i) Over-exposure to speculative capital

A key hitch to South Africa's economic development is its over-reliance on volatile foreign capital flows that not only could be withdrawn relatively quickly from the economy under changing international financial conditions, but that also perpetuate a consumption-led growth pattern that under-invests in productive capacity, adequate infrastructure and skills education. While the extent of 'exposure' to foreign portfolio flows is an administrative matter handled by the SARB (for example, restrictions on capital market securities' purchase locally by nonresidents), sudden

restrictions on the capital account could have adverse financial market responses at a time when South African economic growth appears to remain sensitive to those flows.

This difficult policy predicament erupted into a heated debate amongst South African economists and scholars, one side arguing that trade deficits and large short-term portfolio inflows in fact reflect economic strength⁵⁸ – ie. the ability to attract inflows. The other side arguing that not only do trade deficits make SA more vulnerable to global financial contagion, but speculative portfolio inflows fuelling the trade deficit causes a positive feedback loop that has increased household consumption and debt (not productive investments), increased consumption of imported goods, which has kept trade deficits high to buttress more portfolio inflows.⁵⁹ In light of China's experience, the reverse argument would be that trade surpluses and reliance on FDI over portfolio flows make China's economy weak and fragile. Although China no doubt faces its set of daunting political, economic, and social policy changes, based on the broad analysis in Part I, it would be difficult to contend that South Africa is on markedly better footing in dealing with barriers to development.

Pragmatically speaking, gradually reducing exposure to portfolio flows (and greater emphasis on attracting FDI flows) would generally be beneficial in dampening volatile external conditions and in re-orienting the economy towards building productive capacities, but much less so when these flows are still playing a major role in the balancing SA's international payments. In the absence of portfolio inflows, SA would not be able to cover its trade deficits and budget deficits without dipping into its foreign exchange reserves, which have grown over the years, but generally provide only a few months coverage. As such, gradual reapplication of some form of portfolio investment controls would need to be sequenced with decisions, broadly speaking, about the exchange rate and level of foreign reserves (see below), measures to improve the savings rate (see below), and the allocation of capital (see below) in chipping away at the trade deficit and restructuring the economy towards building productive capacities and prioritizing FDI inflows.

Nonetheless, with these other policy considerations in mind, gradually tightening aspects of the capital account would prove critical in providing a degree of insulation from global financial and economic shocks, allowing domestic governments to (increasingly) handle these shocks on their own terms as well as providing leeway for policy priorities. As Eichengreen alluded, capital controls

loosened the link between domestic and foreign economic policies, providing governments room to pursue other objectives like the maintenance of full employment. Governments may no longer have been able to take whatever steps were needed to defend a currency peg, but *capital controls limited the extremity of the steps that were required*. By limiting the resources that the markets could bring to bear against an exchange rate peg, controls limited the steps that government had to take in its defense." (Eichengreen 1996:5)

In a similar vein, a recent NBER report evaluating the effectiveness of capital controls applied in different country case studies concluded: "In sum, capital controls on inflows seem to make monetary policy more independent, alter the composition of capital flows, and reduce real exchange rate pressures." (Magud and Reinhart 2007:65-9)

These views are synonymous to Keynes' who strongly advocated that interest rates be domestically determined so as "to be as free as possible of interference from economic changes elsewhere, in order to make our own favorite experiments towards the ideal social republic of the future." (Keynes 1933)

⁵⁸ Draper, Peter, Tsidiso Disenyana and Andreas Freytag (2008). "A backward leap to command economics", *Engineering News*, October 2; Shubane, Khehla and RW Johnson (2009). "Why the left faces another battle after toppling Mboweni", *Business Day*, July 22.

⁵⁹ Mohamed, Seeraj (2008). "We must be control freaks", *Engineering News*, October 14. Malikane, Chris, Seeraj Mohamed, Lumkile Mondli, and Simon Roberts (2009). "Currency free-for-all dashes any hope of recovery in SA", *Business Day*, September 30.0

ii) Exchange rate and foreign reserves

Some less orthodox SA economists have forcefully argued for the Rand to undergo a managed devaluation that will incentivize producers to export, which can help reduce the trade deficit and create employment. By placing more focus on a competitive exchange rate (as opposed to the inflation rate), these economists believe they are combating SA 'Dutch disease' – a phenomenon where the price of one or several exported commodities of a country rises relative to other commodities and goods, placing pressure on that country's currency for real appreciation, which in turn undermines the external competitiveness of other producers in that country's economy, say, in agricultural and manufacturing sectors. Other detrimental side-effects relate to the disease's pro-cyclical propensity to accumulate large international debt, and for government to grow accustomed to spending its increased tax revenues during the 'good times', which puts upward pressure on interest rates. As was once remarked,

In the worse cases, after the commodity prices reverse the country is left with a decimated manufacturing export sector, an unserviceable debt, and a bloated government that cannot easily be cut back. (Frankel et al. 2006:76)

Jeffrey Frankel of the Harvard Kennedy School identified the period from 2003 to 2006 as indicative of SA Dutch disease where Rand exchange rate appreciation tracked real international price increases in SA's mineral exports (Frankel and Sturzenegger 2008:4). Others, like investment strategist Michael Power of Investec Asset Management, believe that SA's Dutch disease has done "massive damage across the real economy" for the past decade.⁶⁰

Power, for instance, proposes a devaluation of the Rand to about R14 to the dollar; as compared to its currently level of about R7.5 to the dollar, or close to a 100% devaluation. Such a measure, he estimates, would lead to a current account surplus of 3% of GDP, but also, he admits, to a likely 40% rise in inflation spread out over two to three years. His belief of the emergence of a "positive supply-side response", however, has been questioned, as past currency depreciations rarely jump-started an export boom and exporters 'lazily' settled for higher prices from Rand earnings, according to Dennis Dykes, Nedbank's chief economist.⁶¹

Nonetheless, gradually lowering the value of the Rand over a longer period of time would likely 'set the tone' in terms of signaling the market and domestic firms the government's medium- to longer-term intentions. Some kind of supply-side response is no less possible, but its timing and robustness are far from guaranteed given the prevailing structure of the economy and its substantial bottlenecks inhibiting a fast growth posture. Meanwhile, sequenced in a context of gradual capital account tightening, improved savings rates (see below), and measures to generate trade surpluses through strategic investments in the economy (see below), would leave the economy less exposed to speculative challenges to the given exchange rate target level, thus feasibly allowing for a stable but sustained exchange rate devaluation to elicit a similarly sustained dynamic and robust supply-side response.

Ensuring a competitive, yet stable exchange rate would likely require measures to dampen speculative challenges through the accumulation of foreign exchange reserves to further demonstrate the government's ability and willingness to defend the lower exchange rate level. Although much domestic debate has surrounded the worth, the cost, and the purpose of hoarding foreign currency holdings, under the 'gradual and sequential' approach discussed in the last paragraph, foreign reserves would play a vital 'insurance policy' role in solidifying the desired exchange rate level and reinforcing the government's growth and investment orientation. The

⁶⁰ Hazelhurst, Ethel (2009). "Power up the economy by devaluing the rand", *Pretoria News Business Report*, July 30; Power, Michael (2009). "Dutch Disease: Stronger commodity prices could be a curse in disguise", *Business Day*, May 25.

⁶¹ Hazelhurst, Ethel (2009). "Power up the economy by devaluing the rand", *Pretoria News Business Report*, July 30

Reserve Bank retains the option of sterilizing reserve accumulation in periods of Rand strength, measures last seen in 2006-2007, but absent in the latest period of appreciation.⁶²

It is also worth noting that the deliberate but careful build-up of foreign reserves and the likely nuisance of sterilizing increasing money supply, would not be without its other benefits. For instance, foreign reserves are a foreign asset. Having reached a certain level, in other countries these unconventional government foreign 'savings' have been used for domestic and/or foreign investment opportunities, often through a Sovereign Wealth Fund (SWF) institutional vehicle. As described in Feature #4, the China Investment Corporation (CIC) has deployed its capital allotment to bailout and restructure domestic banks and firms, while also looking for strategic investments abroad in finance and natural resources. As of October 2009, the CIC has spent as much as \$10bn on overseas acquisitions, double the total in 2008.⁶³ In South Africa's case, besides introducing a new dynamic factor domestic and regional investment and trade flows, outward investment from a SWF-like fund would also further help dampen exchange rate volatility, which in turn could encourage further FDI inflows.⁶⁴

Of course, China is hardly the only country to make use of SWF investment vehicles, and generally looked to Singapore's Temasek and Government Investment Corp. (GIC) as institutional models.⁶⁵ Other nations, from Qatar, to Brazil, and Botswana also boast these institutional instruments⁶⁶ (Truman 2007, Teslik 2009). (Note also that formal global trade rules currently have no jurisdiction over the behaviour of SWFs and their outward investments.)⁶⁷

iii) Savings rate (government + households)

As discussed in Feature #2, South African national savings rates have been on the decline since at least the 1990s. This fact of life has led to the country's relatively low rate of fixed-asset investment, which in turn affected the economy's overall productive capacities and its ability to generate trade surpluses, as well as creating the demand for sizeable short-term capital flows to compensate for habitual current account imbalances.

In the context of the measures proposed in this section, government measures to improve the national savings rate would play a vital complementary role in gradually strengthening South African economic fundamentals by limiting the current account shortfall in the balance of payments, and help reduce the economy's reliance on volatile foreign capital inflows, which can add stability to the desired exchange rate level. The policy decision to manage downward the Rand, in turn, would be a key incentive to re-orient the economy away from over-consumption to greater investment, exports, and production. However, other measures to influence the allocation of capital would also likely be needed, including more aggressive industrial policy measures, as well as those to attract FDI (see below).

Of the three channels of institutional savings, government and household savings rates are the lowest and proposed measures focus on these two areas. From a strategic point of view, while measures to boost household savings rates would generally be welcome, there is no guarantee that these savings will not simply lead to greater current consumption. Given the high level of household debt as a proportion of disposable income, measures, say, to tighten SA's consumer credit culture will likely need to be coupled with other measures to boost household income (for consumption) and act as a partial offset to reduced credit-based consumption. However, given

⁶² Mercier, Jean-Francois (2009). "Unlike Van Riebeeck, Dutch disease has returned to SA", *Business Day*, October 5.

⁶³ Anderlini, Jamil (2009). "CIC buys stake in Kazakh oil and gas group", *Financial Times*, September 30.

⁶⁴ Mercier, Jean-Francois (2009). "Unlike Van Riebeeck, Dutch disease has returned to SA", *Business Day*, October 5.

⁶⁵ Burton, John (2007). "Singapore's wealth fund flattered by imitation", *Financial Times*, September 5; Willman, John (2008). "The wealth of nations is reflected in the stellar rise of sovereign funds", *Financial Times*, March 31.

⁶⁶ See also: the Sovereign Wealth Fund Institute website, <http://www.swfinstitute.org/>

⁶⁷ Davis, Bob (2007). "How trade talks could tame sovereign wealth funds", *Wall Street Journal*, October 29.

the privatized structure of SA's banking and financial sector and uncertainty over how private household savings would be utilized in the economy, this section emphasizes ways that government savings can be boosted, although some suggestions to assist household savings are also offered.

- **Mining Royalties:** In February 2009, then-Finance Minister Trevor Manuel announced the delay of a new mineral and mining royalties law until March 2010. Originally set to be implemented in May 2009, the Mineral and Petroleum Resources Royalty Act was likely to bring R1.8bn in government revenue. GDP figures from 2007 suggest that the mining royalty represents about 0.1% of GDP (using an exchange rate of US\$:R7). However, as a proportion of 2007 national savings, the mining royalty represents an (annual) addition of approximately 0.65%.⁶⁸
- **Windfall Commodities Tax:** In July 2008, then-Finance Minister Trevor Manuel expressed his regret for not imposing a windfall tax mechanism on SA's synthetic-fuel producers in 2006. At that time, oil was trading at roughly \$60/bl only to rise incredibly to \$140/bl, leaving much leeway for government to introduce a fiscal rule or a more systematic way of extracting resource rents during price upswings. Although Manuel contends that the Treasury already accounts for windfall prices by calculating the budget based on a benchmark price, giving the budget a in-built counter-cyclical stance, a windfall tax would institutionally formalize mechanisms to further help insulate the domestic economy from exposure to 'Dutch disease' effects by channeling revenues into the budget when commodity prices fall, thereby assisting government to ultimately smooth expenditures. Moreover, the mechanism could further enhance counter-cyclical fiscal policy and/or strategic investments abroad to dampen exchange rate volatility. (OECD 2008:45)⁶⁹
- Chile's experience in dealing with copper price upswings can perhaps act as a model for a South African SWF, given that Chile's SWFs have now stored up over \$20bn – more than 15% of economic output –, the government is well placed to provide a strong stimulus plan in response to global economic crisis, consisting of job-creating public-works projects, tax breaks for business, investments to keep mines operating and other measures. Relative to the size of its economy, Chile's plan is one of the largest in the world, equivalent to 2.8%, as opposed to 2% in the US. As Chilean Finance Minister Andrés Velasco, widely chided for initiating the SWF 'rainy-day' fund idea, explained, the SWF program is "exactly what any household would do. If you get some extra money, you will ask, 'Will I have this again next year?' If not you say, 'Well, I'll save part of it.'"⁷⁰
- With strong copper prices in the late 1980s and again in the early 1990s, Chile established the Copper Stabilization Fund (CSF) in 1985. Prior to its removal in 2000, the Fund took advantage of Central Bank requirements forcing foreign investors to deposit 30% of foreign-secured loan funds and portfolio investments in a non-interest-bearing account for up to two years, among other such restrictions. Dubbed the 'encaje', or 'lock-in', mechanism, the arrangement, on the one hand, punished short-term capital flows and on the other hand, implicitly favoured longer-term flows. Importantly, the Central Bank reserves the right to re-impose the encaje mechanism in the future. (US Department of State 2008)
- In 2006, the Fiscal Responsibility Law established two new SWFs. The first, the Pension Reserve Fund (PRF), which acts essentially as a Savings Fund to address future

⁶⁸ Pringle, Chanel (2009). "On Hold: SA delays imposing mining royalties to save jobs – Manuel", *Engineering News*, February 20-26.

⁶⁹ Creamer, Terence (2008). "Commodity Capture: Windfall-tax spectre resurfaces", *Engineering News*, July 25-31.

⁷⁰ Moffett, Matt (2009). "Prudent Chile thrives amid downtown", *Wall Street Journal*, May 27; Harris, Paul (2006). "Chile sets up funds to stabilize spending", *Financial Times*, August 14.

government pension liability shortfall, whereby no withdrawals from the Fund are allowed for a minimum of ten years. The Fund receives between 0.2% and 0.5% of GDP depending on the size of the government's budget surplus on a given year; initially the Fund received a one-off \$600m lump-sum endowment. The PRF has a higher risk investment profile and invests in a broader range of asset classes as it takes a long-term view given its responsibility of transferring wealth from one generation to the next.⁷¹

- In 2007, Chile's second SWF, the Economic and Social Stabilization Fund (ESSF), was established to replace the Copper Stabilization Fund as a commodity-based Stabilization Fund primarily aimed macroeconomic concerns and thus has a lower risk investment profile as it takes a short-term view to ensure adequate levels of liquidity. The Fund receives fiscal surpluses above 1% of GDP and was allocated a one-off \$5bn lump sum endowment (combined with the assets of the original CSP). The ESSF intends to diversify its assets, with 15% of the investment portfolio in variable income assets, 20% in corporate fixed income papers, while gradually adjusting other assets actually held, particularly highly liquid assets. Currently, the Fund maintains assets in currencies and foreign government agency bonds and financial institution bonds.
- In terms of SWF corporate governance, Chile's Central Bank appoints members of a Financial Committee (FC) that is mandated to devise investments decisions, strategies, and to oversee day-to-day operational management. The FC reports to the Finance Minister who in turn reports to the President. The SWFs do not report directly to the legislative branch, but the SWFs nonetheless receive a certain percentage of revenues from the overall budget which is discussed and decided by the National Congress.
- **Access to essential medicines:** With an estimated 5.2m people in SA this year living with HIV – about 10.6% of the total population – population growth has slowed in recent years as the number of people dying from AIDS-related diseases increased. A South Africa Medical Research Council report showed that between 1998 and 2003, there was a 68% increase in the number of adult deaths, led by a 168% increase in the deaths among women aged 20-49 years (EIU 2008:11)⁷². The pharmaceutical industry was designated in August 2007 a strategic sector for industrial policy, with which local capabilities will be expanded through the leveraged use of the public anti-retro viral (ARV) procurement tender (DTI 2007:10-1).⁷³ More aggressive measures aimed to boost cheap availability of ARVs and other essential medicines is not only considered a matter of 'national security' but will also likely have a significant impact on household savings rates, due to the impact of life span expectations on savings and expenditure behaviour,
- In September 2009, Health Minister Aaron Motsoaledi announced that the government will not meet its target of providing life-prolonging treatment to 80% of people with HIV by 2011 due to logistical problems, a lack of personnel, corruption and a shortage of about R1bn in funding an AIDS treatment program. Roughly 700,000 people, or 50% of the targeted number, have been enrolled, although this figure is cumulative since the program's inception in 2004 and does not take into account of deaths or people who have stopped taking their treatment. Since last November, the government's healthcare budgeting has come under intense scrutiny when the Free State health department reported funding for AIDS drugs ran out and placed a moratorium on enrolling new patients until March 2009. Only three of the nine provinces, Western Cape, Northern

⁷¹ Gladstone, Raphael (2008). "Pension Reserve and Social and Economic Stabilization Fund", Sovereign Wealth Fund Institute database. See, <http://www.swfinstitute.org/fund/chile.php>

⁷² Seria, Nasreen (2009). "HIV/AIDS exacts toll on SA, with 5.2 million people infected – STATS SA", *Business Day*, July 28.

⁷³ Le Roux, Mathabo (2009). "Indian firm sues SA over AIDS-drug tender", *Business Day*, June 29.

Cape and North West, have confirmed that they will not suffer funding shortfalls for treatments.⁷⁴

- Despite the recent pharmaceutical industry sectoral strategy, South African Medical Research Council president Anthony Mbewu recently commented on the need for SA to reduce reliance on imported medicines – SA currently imports 80% of its pharmaceutical needs – and spur greater domestic drug manufacturing capacity to reduce costs.⁷⁵ As seen in Feature #6, Figure 6c, while high-tech goods as a share of total imports has declined over the 2000-2006 period, the proportion of medicinal and pharmaceutical products more than doubled in value from \$666m to \$1.4bn, becoming the top imported item in the high-tech category.
- **Consumer protection:** Given the growing list of cases investigated by the Competition Commission in key input and food sectors, this uncompetitive culture of corporate behaviour not only impeded conditions for sustained rapid growth and employment creation, but also likely drains household savings due to higher than would be pricing practices. Added institutional capacity to investigate corporate practices and enforce rulings should thus be contemplated, if not a more aggressive legislative/institutional competition framework as well, given the extent of apathy shown by portions of the corporate sector of firms under investigation.⁷⁶
- For instance, in the baking and milling of grain markets of wheat and maize – the main staple foodstuffs for the majority of South Africans – significant barriers of entry exist at various different levels of the value chain, from R&D expenditure in biotechnology, to the provision of seeds, to achievement of economies of scale in key inputs such as fertilizer, to the costs of establishing large grain silos and large-scale milling operations. Currently, while there are about 4000 to 6000 grain producer, milling and baking activities are dominated with four firms (Pioneer, Premier, Tiger Brands, and Ruto/Foodcorp) controlling approximately 90 of the market. Evidence from recent investigations suggest that anti-competitive behaviour along the value chain is a serious problem that hurt farm earnings and that ultimately lead to lower investment, production, and higher food prices for consumers. The four firms mentioned were found to have colluded to set prices from at least 1994 to 2007, while also engaging in market allocation by agreeing to shutdown certain bakeries in specific areas in favour of competitors. (Roberts 2009:4, 7-8)
- (Other ways to boost household savings could include measure to further crack down on so-called housing ‘warlords’, of which urban areas such as the Johannesburg Central Business District have become havens, where a large number of derelict building complexes are hijacked and rented out to tenants at exorbitant rates – in most cases reaping millions of rands and making 1000% profit per square meter. In August 2009, authorities were investigating 40 such cases involving three crime syndicates in which local police and municipal officials have also been implicated.)⁷⁷

⁷⁴ Govender, Peroshni (2009). “SA to miss AIDS treatment goal”, *Business Day*, September 16; Ntutu, Xolile (2009). “Free State ARV fiasco”, *Mail & Guardian*, October 2. See, <http://www.mg.co.za/article/2009-10-02-free-state-arv-fiasco>

⁷⁵ Kahn, Tamar (2009). “‘Time for Africa to develop its own drugs’”, *Business Day*, October 6. See, <http://www.businessday.co.za/Articles/Content.aspx?id=83179#>

⁷⁶ For example, what the Commission regards as concentration of buying power by supermarket chain stores – seen in practices like exclusive supply contracts, listing fees, slotting allowances, payment policies, return policies and promotional discounts – leading analysts from Citigroup and Sasfin simply contend that such behaviour is standard practice in retailing across the globe. [Kamhunga, Sure (2009). “Analysts downplay supermarket competition probe”, *Business Day*, July 22.]

⁷⁷ South Africa Broadcasting Corporation (SABC) News (2009). “Authorities clamp down on illegal occupants in Johannesburg”, August 6. See, <http://www.sabcnews.com/portal/site/SABCNews/menuitem.5c4f8fe7ee929f602ea12ea1674daeb9/?vgnextoid=00dabb>

- In the steel industry – a key input for many downstream industrial sectors from construction to machinery, transport and electronics – the Commission found that in the period from at least 1999 to 2005, local steel producers have colluded to share work emanating from three large construction projects, namely the construction of the Mozal Aluminium Smelter in Mozambique, the construction of Hillside Smelter in Richards Bay and the construction of the Coega Harbour. ArcelorMittal, named the ringleader of the cartel, could be fined a colossal R4bn, or 10% of annual turnover in SA of about R40bn in 2008.⁷⁸ Based on 2007 figures, this anti-competitive penalty accounts for about 0.20% of GDP or 1.4% of national savings.
- Moreover, certain product lines dominated by limited firms are subject to import parity pricing whereby pricing for local buyers is set to the equivalent of importing the product despite the relative factor costs in South Africa that favour downstream value-added production. For basic flat steel products, for example, SA steel producer Iscor calculates prices by taking international market prices and adding the costs of shipping, import duties and related port charges. While such pricing behaviour may be consistent with the principle of profit maximization, it does not bode well for allocative efficiency, dynamic efficiency considerations, and the long-term development and employment creation in the local steel industry. Import parity pricing means that there is no benefit passed on to local downstream producers from low steel production costs in South Africa, leaving downstream production under-developed. Thus, “the pattern of exporting unbeneficiated and capital-intensive steel while being uncompetitive in beneficiated and more labour-intensive products is thus being reinforced.” (Roberts 2004:13-4)
- A shift to more vigorous antitrust enforcement by South African authorities would be consistent with competition policy reversals taking place elsewhere, like in the United States, where the Department of Justice has officially withdrawn a 2008 policy advocating extreme hesitancy in the face of potential abuses by monopoly firms. As Assistant Attorney General, Christine A. Varney, boldly declared: “We must change course and take a new tack.” (Varney 2009)

iv) Allocation of capital

Even within the context of the above mentioned policy sequencing, it does not appear that structural trends in South African economy – the dominant role of financial services and persistent reliance on medium-technology imports (as previously seen in Feature #6) – are conducive to a rigorous supply response that would sustainably spur investment and production to bring the current account solidly into surplus. To prevent a ‘lazy’ private sector supply response, government would have to adopt a more hands-on approach to the pattern of capital allocation and productive capacity building on top of reducing and stabilizing the value of the rand. Although the level of the exchange rate is a key economic incentive (as well as interest rates), if South Africa is to make the shift from consumption-led to investment-led growth, other supportive sectoral strategies must be prioritized to ready the country’s economic footing for higher rates of growth, investment and employment in productive activities, in making the most of the gradual but eventual rand devaluation.

- **Development Banks:** As the policy pieces are moved into place, priority should be placed on building up the necessary transport and energy infrastructure on which a production/export response could viably take place. Given South Africa’s largely

[35420f2210VgnVCM10000077d4ea9bRCRD&vgnextfmt=default&channelPath=South%20Africa%20%3E%3E%20L and%20Affairs](http://www.mg.co.za/article/2009-09-04-steel-price-rigging-101)

⁷⁸ Gedye, Lloyd (2009). “Steel price rigging 101”, *Mail & Guardian*, September 4. See, <http://www.mg.co.za/article/2009-09-04-steel-price-rigging-101>

privatized banking sector, the country's development banks – notably the Industrial Development Corporation (IDC) and the Development Bank of Southern Africa (DBSA) – could play a particularly strategic role in driving the focus on industrial infrastructure development and sectoral strategies. To some extent, this re-focusing is already taking place as the IDC shifts from natural resources to energy and renewable energy investment projects.⁷⁹ Although when measured by total assets the state's top four development banks equal no more than a quarter of the size of the smallest of SA's big four banks, most development banks sit on a large asset base with very low levels of leverage and turnover ratios – ie. with significant room to maneuver in making strategic bets on the margins (Hausmann et al. 2008:14).⁸⁰

- The Treasury's 2009 Budget Review noted that the current balance sheet of the DBSA could support up to R38bn in loans to meet infrastructure needs, while the IDC could further leverage its balance sheet in providing R60bn over the next five years.⁸¹ In response to economic downturn, however, the IDC has announced of R70bn in loans for developmental projects over the next five years, and the DBSA plans to increase its lending by R108bn over the next three to five years.⁸² Other emerging economies, like Brazil, have long used such institutions to provide cheaper longer-term financing for priority economic areas and objectives. Brazil's Banco Nacional de Desenvolvimento Economico e Social (BNDES) has changed roles over the years, but the main priority remains the encouragement of long term investment and savings in strategic sectors, not simply by increasing its lending but also by specifically supporting innovation in technology, management and marketing. The BNDES' lending has increased steadily from R\$10bn in 1996, to R\$51bn in 2006, to R\$123.6bn in the 12 months to August 2009. BNDES is also now a leading candidate to run Brazil's new sovereign wealth fund.⁸³
- **Sectoral Strategies and FDI:** Beyond building-up infrastructure, however, government sectoral strategies would need to play a role in establishing (limited, time bound) preferential regulatory frameworks in channeling investment and (semi- and low-skilled) human resources to reach a threshold of productive capacities with which to (increasingly) engage the more dynamic and rewarding areas of manufacturing and global supply chains. In accumulating this critical mass of productive capacity, the government must also be mindful of strategies to move up the economic value chain by concentrating ultimately on industries where income elasticity of demand is high, technological progress is rapid, and labour productivity rises fast, such as in machinery, electronics, telecommunications equipment, petrochemicals and pharmaceuticals.
- While South Africa is regarded as a middle-income country, the relatively limited industrial capacity combined with high rates of unemployment, inequality and poverty suggest the need to first focus on labour-intensive, low technology sectors in which developing countries are often 'naturally' competitive and, as China has done, work upwards from there. The heavy industry, medium technology sector, usually regarded as the next stage of development, is already quite developed in South Africa, could play an important role in supplying the capital and intermediate goods that would enhance domestic content in finished consumer and producer products. This is not to discourage or overlook the importance of high technology sectors in the economy, but to recognize that in the country's current development context a sole focus on high technology would be too narrow a plank on which to foster inclusive, broad-based national development.

⁷⁹ Creamer, Terence (2008). "New Energy", *Engineering News*, November 21-27.

⁸⁰ Joffe, Hillary (2009). "Taking a longer-term view on growth", *Business Day*, February 24.

⁸¹ Venter, Irma (2009). "Infrastructure Push: Manuel unveils R787bn infrastructure plan", *Engineering News*, February 20-26.

⁸² Mathews, Charlotte (2009). "Moody's gives IDC and DBSA lower ratings", *Business Day*, September 8.

⁸³ Wheatley, Jonathan (2009). "Interview with Luciano Coutinho, president of the development bank, the BNDES", *Financial Times*, November 4.

Rather, as investment and production in low and medium technologies moved closer to critical mass, the necessary groundwork could be better prepared and reorganized before a concerted push into high-technology becomes the main objective.

- To emphasize this dynamic staggered sectoral strategy, the government would do well to compile a FDI catalogue with which to better organize and prioritize industrial sectors and the framework of incentives with which to attract foreign investment. As with other sectoral strategies, incentives should be drawn up on a technical sliding scale over time, as productive capacities are improved over time towards industrial activities with higher value added potential. All too often, generous instruments such as special economic zones (SEZs) and the like are treated as ends in themselves, rather than as a necessary means to an end, thus keeping SEZs as economic enclaves rather than a much needed spark in building dynamic productive capacities and exports that grow and evolve over time.⁸⁴ A FDI catalogue would help keep these ultimate ends in mind while also building the technical capacity of public officials, which would also catalyze greater informational interactions with the private sector.
- In looking to boost FDI inflows, despite the common belief of relatively stringent global trade rules surrounding trade-related investments measures (Kaplan 2008), government officials should also make adroit use of the grey area surrounding the common practice to negotiate with foreign investing firms informal conditions of access to generous preferential policies with the goal of supporting domestic industry development (Akyuz 2007:15-6; Bora et al. 2000:21; Amsden 1999: 11-2). More specifically, such informal initiatives could take the shape of:
 - Export performance requirements of foreign investing firms requiring that a foreign company sells some of its output overseas for a given period to protect domestic markets for local firms;
 - Manufacturing requirements stipulating that a foreign company produces, or does not produce, a certain good in the host country;
 - Local ownership requirements ensuring that domestic investors retain a proportion of a firm's equity; and
 - Technology transfer requirements specifying that a foreign investing company conduct a proportion or type of its R&D locally and transfer or license the most up-to-date technology to domestic firms. (Weiss 2005b:726-7)
- As an example, one 'new' sector briefly worth mentioning is that of renewable energy industries, with emphasis on solar technology. With South African policy-makers generally focused on the roll-out and installation of solar water heaters⁸⁵, strategic FDI promotion policy could be used to attract investments in component (solar module, cell, wafers⁸⁶) portions of the supply-chain to deepen local production capacities and learning opportunities in an emerging multi-billion dollar market in which South Africa is at risk of missing out, despite the favourable local climatic conditions for the technology. With a developed and scaled-up supply chain, a dynamic local solar industry would play a significant role in not only easing capital expenditure pressures in (traditional) electricity generation and distribution, but also help to counter trade deficits by giving South Africa a strong production and (possibly) export foothold in a global industry with sizeable potential future growth prospects.

⁸⁴ Unknown author (2009). "If Mauritius can create wealth this way, so can SA", *Business Day*, March 4.

⁸⁵ Copans, Guy (2008). "South Africa waking up to solar, as well as its business and employment spin-offs", *Engineering News*, September 26; Engineering News (2009). "Solar Ambition", February 6-12; Engineering News (2008). "Solar Eclipse", August 1-7.

⁸⁶ See: Hariharan et al. (2008).

- **Heavy Industry and Public Enterprises:** The capacity of upstream heavy industries to supply key inputs to downstream sectors will be a key determinant of the government's efforts to sustain faster growth and production, while also helping to keep inflationary pressures on producers and consumers in check. Continued public ownership and influence in strategic economic sectors such as electricity, petroleum and petrochemical products, pipelines, and telecommunications, are significant levers with which to drive rapid growth, but are also areas where government has provided bailouts and where investment rates have often not kept up with capacity needs of the economy.⁸⁷ While loss-making upstream sectors are not necessarily inimical to economic development if the resultant inputs are cheaply provided to profit-making downstream sectors, it does become a drain if certain strategic downstream intermediate goods markets are subject to monopoly/oligopoly pricing power that nullify any benefit for firms further downstream producing consumer or capital goods.
- As discussed briefly above (sub-section iii), relatively weak competition rules and enforcement in steel and fertilizer sectors ensure that the benefits from cheaper upstream inputs do not flow to, in the former case, downstream metal or machinery fabricators that create jobs and add value, or, in the latter case, to farmers contributing to food security. In both of these cases, the impact of monopoly/oligopoly pricing behaviour in raising consumer and producer prices should be fairly obvious, further highlighting the essential role of competition policy in the attainment of rapid growth and an investment-led growth model. As seen in Feature #9, besides the key difference in China's competition regime regarding treatment of intellectual property and technology transfer primarily aimed at foreign competitors, China's legislation is also balanced with provisions to reign in intransigent commercial practices and pricing behaviour by domestic SOEs.

Part III: Conclusion

In contemplating South Africa's developmental state (DS) makeover, this paper set out in part I 10 main defining features of the East Asian 'developmental state' configuration to help elucidate South Africa's developmental trajectory vis-à-vis the world's most successful developing region in the post-World War II era, and more specifically, vis-à-vis China's economic reform experience.

As both developing countries reveal diverging trajectories on all features examined, the paper uses these contrasting scenarios to broach a discussion on the strategic measures needed to bring South Africa in closer approximation to a DS structural stance in sustaining rapid, dynamic growth, encouraging gradual experimentation with market reform processes, while building productive capacities and employment up the economic value chain. Part II conceptually provides a flavour of key policy proposals to resolve bottlenecks that stand in the way of South Africa's DS ambitions, focusing on pragmatic measures related to: over-exposure to speculative capital flows, exchange rate and reserves, national savings, and the allocation of capital.

While these proposals could appear to the casual observer as a kind of wish-list of policy measures for intractable development roadblocks, it is more important to see them as an interconnected and self-reinforcing policy package approach that can feasibly disentangle the South Africa economy from its status quo growth trajectory. The idea here is to be pragmatic by accepting policy constraints as they currently exist, while also gradually laying the groundwork for policy changes more conducive to longer term national development. In China, this gradual layering of policy reform is commonly referred to as the 'dual-track' approach and continues to be applied today.

Of course for South Africa, such wide-ranging policy change is no simple matter, and would require a more detailed technical sequencing and political economic analysis to better map the

⁸⁷ Gedye, Lloyd (2009). "Hand-out season", *Mail & Guardian*, August 28-September 3.

varied policy interests, institutions, tools and objectives that need coordinating. While this mapping exercise cannot be done during the final stages of this paper, another approach is adopted to show the growing willingness of other emerging market economies to experiment with DS-type frameworks and policies that are deemed strategic for their long-term development prospects. As the global economic balance of power, amid turbulent global crisis conditions, is gradually reshaped from the developed to the developing world, South African policy-makers increasingly confront a favourable international policy environment in which to regain policy-space, strengthen institutions and revamp its developmental model. Moreover, with the lack of African representation among leading emerging nations, South Africa faces a window of opportunity to lead an African development policy renaissance and play an even larger leadership and economic development role for the continent.

In short, leading emerging economies now appear ready to test the assertion that, "What constrains sensible industrial policy is largely the willingness to adopt it, not the ability to do so." (Rodrik 2004:32)

Here, we will focus mainly on recent unorthodox measures adopted in India and Brazil, the two most politically and economically liberal countries among the BRIC (Brazil, Russia, India, China) group of nations (Russia has yet to gain membership to the WTO). A few relevant examples are briefly explained below.

India

- In the years leading up to the current economic crisis, the Reserve Bank of India (RBI) was under domestic pressure to liberalize capital account controls regulating the amount Indian companies can borrow overseas each year. Scarred from previous balance of payments crises, the Indian rupee is only freely convertible for trade and business expenses, and Indian firms are limited to \$500m in annual external commercial borrowings, unless special permission is secured. However, in spring 2007 with the rupee almost reaching an eight-year high against the dollar and exchange reserves hitting \$200bn, nearly overwhelming the RBI with 'hot money' equity portfolio investments from keeping the exchange rate and inflation under control.
- Then-RBI governor, YV Reddy, responded by leaving restrictions in place (with the option to further tighten) and thus limiting the exposure of the India's private sector from borrowing overseas on easy terms and investing the money in India in non-productive assets, such as land banks. As Rajeev Malik, economist with Maquarie Securities contended: "There is no doubt in my mind that had it not been for the deft handling by Reddy, India could have been a mini version of Iceland, with the economy buckling under overseas borrowing by Indian companies."⁸⁸
- Another important measure was the decision by the Securities and Exchange Board of India (Sebi), the country's stock market regulator, to restrict foreign buying of shares through offshore derivatives known as participatory notes, or P-notes, an important source of equity flows principally used by hedge funds not registered with Sebi to invest in Indian equities. P-notes are linked to an underlying Indian security and sold by approved banks, enabling foreign investors to gain exposure to Indian stocks.⁸⁹
- In early 2008 Prime Minister Manmohan Singh formed the National Manufacturing Competitiveness Council (NMCC) to suggest both short-term and long-term measures to assist the underperforming manufacturing sector. With no comprehensive manufacturing

⁸⁸ Leahy, Joe (2009). "Trial by fire shed light on wisdom of former leader", *Financial Times*, Special Report: New Champions, September 10; Johnson, Jo (2007). "India keeps tight control of rupee amid hot money surge", *Financial Times*, April 10.

⁸⁹ Johnson, Jo and Joe Leahy (2007). "India shares see-saw on bid to stem hot money", *Financial Times*, October 18.

policy currently in place, the NMCC's report recommended a swath of cross-cutting policies, including directing macroeconomic policies, like those on taxation, trade, technology and FDI, among many others, towards boosting the manufacturing sector. The report also called for the establishment of a permanent body to monitor developments and provide appropriate policy actions in sub-sectors identified as strategic for strengthening national capabilities in the long-term, namely: aerospace, shipping, capital goods, IT hardware and electronics, and solar energy.

- This builds on earlier reports by the NMCC also promoting sectors currently with some competitive advantages as in textiles and garments, food and agro processing, leather and footwear, paper, chemicals and petrochemicals, auto components, IT hardware and electronics, telecom equipment, and drugs and pharmaceuticals. Priority industries, in general, are assured long-term government support from external economic shocks such as changes in taxation structures, exchange and interest rates movements, etc. so as to mitigate their impacts. (NMCC 2008; 2006)
- India's pharmaceutical industry has also taken a more aggressive stance in appealing to reject intellectual property protection on tenofovir (held by Gilead, a US-based biotechnology group), one of the widely used HIV treatments known by the brand name Viread, which was upheld by the Delhi patent office in September 2009. The decision allowed Cipla, the Indian generic drug maker that made the appeal, to ease constraints impeding India's thriving low-cost generic drug companies from producing cheaper versions of the drug for sale in emerging markets, not to mention the likelihood for greater domestic competition and deeper price cuts. Cipla originally refused licensing terms offered by Gilead which required local producers to pay royalties and not to sell the drug into middle-income countries like Brazil and China. Although the decision can still be challenged by a parallel patent filing, the ruling eases concerns in other developing countries that were reluctant to buy the generic version of tenofovir for fear that were the patent upheld, Cipla would be forced to cease production.⁹⁰

Brazil

- In October 2009, Brazil's finance ministry announced the imposition of a 2% tax on foreign portfolio investment in response to exchange rate volatility, which has seen the real nominally appreciate 36% against the US dollar so far this year, and 23% in real trade-weighted terms. As Finance Minister Guido Mantega put it, "Our concern is with excessive speculative investments, short-term capital that could cause a bubble."
- Although investors remain skeptical that such measures will succeed, the decision builds on a similar move last year when portfolio investments in fixed income instruments were taxed 1.5%. The latest measure, however, also includes portfolio investments in securities which represent a larger portion of portfolio flows; net inflows to equities this year to the end of August were \$13.2bn, compared with \$2.5bn for fixed income. In terms of market reaction, Brazil's currency and stock market fell sharply after the government announcement, but the former has since regained its strength and the main stock market index, Bovespa, appears stabilized. Moreover, the measure will likely raise badly needed government revenue due to falling revenues from Brazil's short recession and higher spending on payroll and other fixed expenses; if it had been applied to inflows so far this year, it would have netted the government R7bn (\$5bn).⁹¹

⁹⁰ Jack, Andrew (2009). "India overturns HIV drug patents", *Financial Times*, September 2.

⁹¹ Wheatley, Jonathan and Alan Beattie (2009). "Brazil imposes capital controls in bid to stem rise in exchange rate", *Financial Times*, October 21; Wheatley, Jonathan (2009). "Attempts to cool the real likely to be circumvented", *Financial Times*, October 21; Lex Column (2009). "Capital Controls", *Financial Times*, October 22.

- The Brazilian government adopted a number of industrial policy initiatives over the years affecting a wide range of manufacturing sectors. The auto sector, for example, mostly excluded from the drive to economic liberalization seen in the 1990s, continues to receive active trade policy protection as part of a joint regional accord with Argentina that sees duties of 35% on automotive products imported from outside Mercosul and Mexico, which in turns ensures that 95% of vehicles sold in Brazil are domestically manufactured. Domestic producers are also aided by a special tax, the industrial production tax (IPI), designed to encourage motor vehicles with smaller engine sizes and those running on alternative fuels like ethanol and gas. The IPI is currently set at 8% for refrigerated motor vehicles; 9% for passenger motor vehicles with engine capacity up to 1,000 cc; 13% for ethanol or flex-fuel motor vehicles; and 15% for gasoline fuelled vehicles automobiles with engine capacity between 1,000 and 2,000 cc. For motor vehicles with engine capacity above 2,000 cc, the IPI is set at 25% for gasoline-fuelled vehicles and 20% for ethanol and flex-fuel vehicles. (WTO 2004:134-5)⁹²
- In aerospace, the government established special funds for R&D as part of the Science and Technology for the Aeronautical Sector Programme, which receives 7.5% of the total income from a fund by the name of, the Contribution for Intervention in the Economic Domain (CIDE), which totaled R\$7.5bn in 2003. Allocated by the National Scientific and Technological Development Funds, the funds are targeted at the aircraft industry for various scientific and technological research and development, basic industrial development, implementation of development-related infrastructure, human resource development, and documentation and diffusion of technological knowledge. In terms of export financing, the industry also enjoys financial support under the PROEX programme, run by the Banco do Brasil. (WTO 2004:135-6)
- In strategic sectors that have undergone privatization, the government retains influence through shareholdings, and/or so-called 'golden shares' that give it veto power over major decisions in corporate governance including changes in name, location of head offices, liquidation of the company, ownership changes and closing or sale of important productive assets. For instance, in Vale, the mining giant privatized in 1997, aside from golden shares, the government retains influence through shares held by BNDES, the government-owned development bank, and through shares held by pension funds of public sector companies such as Previ, the fund for employees of Banco do Brasil. Banco do Brasil president, Sergio Rosa, is also chairman of Vale's board.⁹³
- In the oil industry, the discovery of huge oil deposits off the coast, will likely turn Brazil into a big oil exporter. Recently, President da Silva made clear two overarching priorities for the 'pre-salt' fields: to keep the oil in Brazilian hands and to ensure that its proceeds were spent on the Brazilian people. The draft legislation intends to switch from the current concessions system to production sharing agreements (PSAs). In the former, which governs most of Brazil's oilfields, oil companies are given any oil they produce in return for taking all the exploratory and operational risks, as well as paying the government royalties and other fees. Under a PSA, the government retains ownership over the oil and oil companies are given a share of it as payment for their services.
- Moreover, the government plans a new oil company, Petro-Sal, 100% government-owned, that will oversee the PSAs. Petro-Sal will have half the votes on each consortium's operational committee and a veto over any decisions including the rate of oil production and acquisition of goods and services. Petrobras, the existing Brazilian state oil company, will take at least 30% of any consortium, will be the lead operator in all of the, and may be granted licences on its own for any field at the government's discretion.⁹⁴

⁹² EIU (2007). "Brazil: Manufacturing", August 3; EIU (2008). "Brazil industry: Roaring again", August 18.

⁹³ Wheatley, Jonathan (2009). "Government intent on more control", *Financial Times*, November 5.

⁹⁴ Wheatley, Jonathan (2009). "Critics warn Brazil oil plan will deter investors", *Financial Times*, September 7.

- The government also plans to use revenues from the newly discovered oil fields to create a sovereign wealth fund with as much as \$200bn-\$300bn in the next three to five years, according to the Finance Minister, Guido Mantega. The SWF would initially adopt a fiscal stability fund posture, setting aside 0.5% of gross domestic product, or about R14bn, as a counter-cyclical contingency reserve. The fund is slated to invest in locally issued government debt, reducing the debt held by the private sector and effectively lowering the net burden of public debt, currently about 41% of GDP.⁹⁵
- Recent years have also seen Brazil engage in aggressive negotiated brinkmanship with the pharmaceutical industry over HIV drug pricing, threatening to issue compulsory licenses, but stopping short following deeper price discounts from pharmaceutical multinational companies. For instance, in May 2007, following the break down of talks between government authorities and Merck over the HIV medicine Efavirenz, actually led to a Presidential decision to override the patent, thus allowing the government to purchase from rival generic suppliers as permitted by WTO rules. Merck refused Brazil's insistence to reduce its price from \$1.57 a patient a day to 65 cents, the price achieved in a similar patent-breaking case seen in Thailand.⁹⁶
- In a more recent case, Brazil threatened to further break patents on US pharmaceutical products in retaliation against subsidies of roughly \$3bn annually to US cotton farmers. Given that Brazil is a relatively small market for US exporters, taking \$32bn out of \$1,287bn of US exports in 2008, Brazil seeks to take action over intellectual property, an area of much greater significance to US interests. While the WTO ruled in Brazil's favour, the trade retaliation granted by a WTO arbitrator was barely a tenth of the \$2.7bn Brazil had wanted, and did not receive authority to break US drug patents. However, Brazil's WTO ambassador, Roberto Azevedo, continued to claim the ruling entitled his country to impose \$800m in retaliation in 2009, including \$340m of sanctions on intellectual property or services.⁹⁷
- In another case, GlaxoSmithKline (GSK) agreed to an innovative contract with Brazil guaranteeing sales of its pneumococcal vaccine (prevention of pneumonia and meningitis) over the entire life of the product. The deal is a breakthrough in negotiation of a long term contract that provides GSK with an agreed price and volume, starting at €11.50 a dose and falling to €5 in future years. The discount is significant given the original price of €35-€40 a dose in Europe. The deal also includes a technology transfer agreement that will eventually allow domestic Brazilian firms to manufacture the vaccine itself.⁹⁸

The focus on examples from India and Brazil of policy experimentation and of using markets for national objectives rather than solely as ends in themselves, does not mean that the South African government is completely devoid of such strategic thinking and planning. While South Africa retains certain interventionist policy tools, perhaps the most structurally potent are the policies that seek to redress the country's socio-economic imbalances through black economic empowerment (BEE) (and land reform). Although the initiative has been roundly criticized on many fronts – for example: for disproportionately benefiting politically connected black individuals and for cases where companies use a black 'front' to give the appearance of BEE compliance – the government continues to evolve and modify its affirmative action experiment, in one of the

⁹⁵ Wheatley, Jonathan (2008). "Brazil in \$200bn sovereign fund plan", *Financial Times*, June 8.

⁹⁶ Jack, Andrew and Richard Lapper (2007). "Brazil overrides Merck patent on HIV drug", *Financial Times*, May 4; Bowe, Christopher and Raymond Colitt (2005). "Brazil to break patent on Abbott Aids drug", June 25.

⁹⁷ Williams, Frances (2009). "Brazil wins WTO go-ahead for US sanctions", *Financial Times*, August 31; Wheatley, Jonathan (2009). "Brazil ready to escalate US trade dispute", *Financial Times*, August 31.

⁹⁸ Jack, Andrew (2009). "GSK in deal with Brazil for pneumococcal vaccine", *Financial Times*, September 27.

clearest indications of its refusal to accept market mechanisms as acceptable ends in themselves.

Again, admittedly far from perfect, BEE is nonetheless South Africa's most relevant response to Buffett's warning of a nation ceasing to be capital-owning and becoming "simply a nation of wage earners". With determined refinement and reevaluation, BEE and measures proposed in this paper would make South Africa's response that much more forceful.

Annex A

Table 1. Technological Classification of Imports

(SITC 3-digit, revision 2)

Classification	Examples
Primary products	Fresh fruit, meat, rice, cocoa, tea, coffee, wood, coal, crude petroleum, gas
Manufactured products	
<u>Resource-based manufactures (RB)</u>	
Agro/forest based	Prepared meats/fruits, beverages, wood products, vegetable oils
Mineral based	Ore concentrates, petroleum/rubber products, cement, cut gems, glass
<u>Low technology manufactures (LT)</u>	
Textile/fashion cluster	Textile fabrics, clothing, headgear, footwear, leather manufactures
Other LT	Pottery, simple metal parts/structures, furniture, jewellery, plastic products
<u>Medium technology manufactures (MT)</u>	
Automotive products	Passenger vehicles and parts, commercial vehicles, motorcycles and parts
Process industries	Synthetic fibres, chemicals and paints, fertilisers, plastics, iron, pipes/tubes
Engineering industries	Engines, motors, industrial machinery, pumps, switchgear, ships, watches
<u>High technology manufactures (HT)</u>	
Electronics and adv. Electricals	Office/data processing/telecom equip, TVs, transistors, turbines, electricity generation equipment
Other HT	Pharmaceuticals, aerospace, optical/measuring instruments, cameras
Other transactions (not included)	Electricity, cinema film, printed matter, 'special' transactions, gold, art, coins

Source: Lall 2000; Lall and Weiss 2004.

See sources for complete breakdown of products by SITC 3-digit category.

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