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SOUTH AFRICA'S AGRICULTURAL SECTOR TWENTY YEARS AFTER DEMOCRACY (1994 TO 2013)

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Abstract

South Africa's agricultural sector has undergone substantial policy reform since the dawn of democracy in 1994. Now, twenty years later, it is an opportune time to look back at this period to review key successes and failures. This article revisits South Africa's context and policy at the start of this period, the reforms that followed, and evaluates the transformational effect (or lack thereof) on the sector. For this purpose, the article pulls from both qualitative sources and descriptive statistics to provide both a historical context and current perspective. The analysis shows that redistributive land reform and smallholder support programs have achieved limited success in transforming the sector towards greater inclusivity. Trade and marketing policy reform, however, has succeeded in transforming the sector towards greater productivity and international competitiveness. This has increased the market and climate resilience of the sector, but the limited inclusivity of historically disadvantaged persons poses significant challenges.
Keywords: South African Agriculture, Democracy, Production, Trade, Employment

Introduction

At the end of the Apartheid era in 1994, South Africa's agricultural sector was characterized by marked dualism. On one end was a large-scale, white-owned, technologically advanced commercial agricultural sector that was thriving. On the other end, a small-scale sector in the former homelands remained largely subsistent on communal lands. These 'two agricultures' (Lipton, 1977) were the result of more than a century of concerted action to suppress black farmers, to support white farmers, and to keep the two separate geographically, economically, and socially. Agricultural and land reform policy in the early post-Apartheid years was, therefore, inevitably aimed at addressing this dualism, but unfortunately without much success (Karaan and Vink, 2014).

It is now more than twenty years since South Africa's transition to democracy and a time of much reflection on what has and has not worked in the economic development of the country (Bhorat et al., 2014). This article reflects on the transformational effect (or lack thereof) of the policy changes on the agricultural sector since the transition. To this end, this article revisits South Africa's agricultural context and policy before democracy. This discussion is followed by an overview of the reforms that followed, and an evaluation of the reforms' efficacy in transforming the agricultural sector. Also, an Appendix is provided as a conversion Table showing various conversions or interpretations of amounts and measures.

South African Agriculture in the Broader Economy

Output and GDP contribution

South Africa is classified as an upper middle-income country with a per capita income of $6090 (2005 values) in 2013. This makes the country relatively well-off since this is 1.6 times larger

than the average per capita income of the upper middle-income countries and 2.1 times that of the middle income countries, albeit significantly smaller than the USA, whose per capita income is 7.5 times larger. Compared to other upper middle-income countries, South Africa's agricultural and manufacturing sectors represent a relatively smaller part of the economy. Agriculture, for example, represented only 2.3% of the economy in 2013 vs. the group average of 7.6% (Table 1). The decline of the agricultural sector's share in the economy since 1994 is due to the relatively faster growth of the non-agricultural sectors since it expanded by 41.5% during this 20 year period (South African Reserve Bank [SARB], 2014). However, per capita income and sector contribution data do not reflect the high degree of inequality in the distribution of this wealth. Between 2003 and 2012 the country had the second highest GINI coefficient among the 135 countries reported by the World Bank (2015).

Table 1. GDP Contribution; 1984, 1994, 2004 and 2013 (%)

		1984	1994	2004	2013
Agriculture	South Africa	4.8	4.6	2.7	2.3
	Upper middle income	20.4	14.8	8.6	7.6
Manufacturing	South Africa	23.0	21.0	18.1	13.2
	Upper middle income	27.9	25.8	23.8	23.0

Source: World Bank, 2015

South African Agricultural Land and Climate

South Africa has a total land area of just over 122 million hectares (about the size of Texas [69.6m], California [42.3m] and Alabama [13.5m] combined) of which about a 100 million hectares is available for agriculture (Directorate for Agricultural Statistics [DAS], 2014). Only 13% of this area receives sufficient rainfall for dryland crop production, of which only one-fifth is regarded as high potential land. This is partially due to the fact that it is a dry country, with only 10% of the country receiving more than 750 mm (3 inches) of rain (Bernstein, 2013). The country is also subject to periodic droughts and has been getting drier due to higher temperatures and adverse rainfall patterns (National Planning Commission [NPC], 2011). Given this climate, irrigated agriculture plays an important role with 63% of available water being used to irrigate 1.50 million hectares (Aquastat, 2005).

Dualism in South African Agriculture

Inequality is also present within South Africa's agricultural sector between the commercial and smallholder sectors. The commercial or large scale sector consists of 40,000 mostly white commercial farmers that produce most of the marketed agricultural produce on roughly 82 million hectares (DAS, 2014). Within this group the distribution of farms is also skewed, with the largest 7.3% of commercial units accounting for about 50% of aggregate gross farm income and 60% of net farm income in 2007 (Stats SA, 2007). Average farm sizes also continue to grow since this sector consisted of just over 91,000 commercial farmers in 1970 (Liebenberg, 2012).

Broadly defined the smallholder sector consists of about 4 million black farmers, mostly women, who engage in agricultural activities, primarily on the 14 million hectares of the former homelands. A dualism can also be identified within this group with the majority (92%) engaging in agricultural production as a secondary source of food and as "subsistence orientated smallholder farmers." The rest, "commercially minded smallholders", engage in production as a primary source of income and food. Collectively women make up 60% of smallholder farmers,

and the percentage of the population who engages in agricultural production is decreasing with younger generations (Aliber et al., 2009).

Agricultural Trade

Table 2 provides a summary of South African agricultural trade since the late1970s. One of the major long-term trends during this period is the increase of agricultural imports' share in total imports from a low of below 4% during the late 1970s to above 6% more recently. Inversely the share of agricultural exports in total exports declined from above 10% to below 8% during the same period.

Table 2. South Africa's Trade in Agricultural Goods Since 1979

		1979-1983	1984-1988	1989-1993	1994-1998	1999-2003	2004-2008	2009-2013
Ag. % share in	total imports	3.8	5.9	5.8	6.7	5.4	5.3	6.4
	total exports	10.4	7.2	7.7	9.1	8.2	7.3	7.8
% Real growth in Ag.	Imports	11.9	-7.5	0.6	6.6	2.2	11.3	5.1
	Exports	-11.6	2.5	-13.1	4.0	2.8	8.9	-1.9
Agricultural import cover		3.8	1.8	1.9	1.5	1.7	1.3	1.2
Processed Agricultural exports/total agricultural exports		47.5	57.4	52.8	51.6	60.7	58.0	73.3

Source: Directorate for Agricultural Statistics, 2014
Notes: Values used for 2013 are preliminary

A combination of international sanctions and the devaluation of the currency in the mid-1980s and early 1990s resulted in a major decline of both imports and exports. Growth rates recovered substantially from 1994 onwards following the liberalization of trade and the deregulation of agricultural marketing as discussed below. Since 1994, the growth in imports has outpaced that of exports in all periods except for 1999 to 2003. Thus, the agricultural import cover, while positive, has declined from 1.9 to 1.3 times during this period. Moreover, the increasing share of processed agricultural exports in total agricultural exports (as shown in the last line of Table 2) provides a first indication of shifts in the structural composition of agricultural exports. An in-depth analysis of agricultural trade reveals a complete structural reorganization of the agricultural sector that will be expanded upon in subsequent sections.

Given the above, the agricultural sector currently plays a growth enabling role in the economy in Kindleberger's (1962) definition, given the positive agricultural trade balance but small and declining share in total exports. Given the declining trend in agricultural imports, the sector could, however, transition into a negative agricultural trade balance with the concomitant implications for national food security.

The Policy Reorganization of the Agricultural Sector Since the 1990s

The performance of the South African agricultural sector over the past twenty years should be seen within a historical context. White commercial agriculture was a key constituency of the apartheid state until the early 1980s. During the 1950s and 1960s, the government invested heavily in research and development, infrastructure, extension services, direct subsidies for conservation works and debt relief, and the settlement of white commercial farmers. In

response to this investment, commercial sector agricultural output gradually started to grow, assisted by guaranteed markets and guaranteed prices for most farm commodities.
The 1970s were a period of rapid growth in the South African economy as a whole, supported by high gold prices and high agricultural growth. This, however, was not to last and by 1976 the economy had moved into recession, which turned into a period of prolonged stagflation that lasted until the 1990s. As a result, economic policy shifted in the late 1970s, with a greater focus on deregulation of the financial markets in South Africa. This set in motion a process of liberalization of trade and deregulation of agriculture that was only partially completed by the early 1990s.

Trade Policy Shifts in the 1990s
The key feature of post-1994 trade policy in South African agriculture has been the replacement of direct controls over imports and exports, exercised in terms of the Marketing Act of 1968, by tariffs, and the lowering of those tariffs below the bound rates agreed to in the Marrakech Agreement of 1994. Initial progress in rationalizing the tariff regime and with lowering nominal and effective protection was fast. In agriculture, virtually all tariffs are now below the bound rates of the Marrakech Agreement.

The structure of protection also affects agriculture. In South Africa, the average tariff cascades from a relatively high rate on consumer goods to moderate on intermediate goods and low on capital goods. This pattern, which is typical of protection in many developing countries, implies that less progress has been made in rationalizing effective protection. In addition, countries in the Southern African region have been granted preferential access through the abolition of quantitative controls over agricultural trade within South African Customs Union (SACU), a range of bilateral treaties and the free trade agreement with Southern African Development Community (SADC). Finally, South Africa has signed a free trade agreement with the European Union. These changes came about in accordance with national trade policy, whose main purpose was to lower the average level of tariffs, to maintain a typical tariff escalation profile, and to simplify the tariff structure.

Marketing Policy Shifts in the 1990s
Until 1998 the marketing of most agricultural products in South Africa was extensively regulated by statute, based on the original Marketing Act (some 70% of agricultural output by value), the Cooperative Society's Acts (in the case of ostriches and wattle bark) or by industry-specific statutes (such as the Sugar Act and the Wine and Spirit Control Act). Most products were regulated under the 22 marketing schemes introduced from 1931 and especially from the time of the 1937 Marketing Act (consolidated in the Marketing Act of 1968). Sweeping reform was brought about by the Marketing of Agricultural Products Act, No 47 of 1996. This new Act set up the National Agricultural Marketing Council (NAMC), whose immediate mandate was to dismantle the existing Control Boards, and subsequently to manage and monitor state intervention in the sector.

It is evident that the effects of deregulation differed among the field crop, the horticultural and the livestock subsectors of agriculture, partly because of their different modes of production, and partly because the nature of control under the old Act differed between different commodities

(Vink, 1993). Ultimately, these policy changes had a significant impact on the sector. Sectoral shifts in grain production and horticultural exports are expanded upon in the sections below.

Land Reform

The Department of Land Affairs (DLA) completed the process of land reform policy design with its White Paper in 1997 while implementation of the program had already started in 1994. Land reform policy in South Africa consists of land restitution, tenure reform, and redistribution programs. Briefly, restitution deals with historical land rights of people who were forcibly removed by the state, with the objective to serve justice by returning the land itself or providing a cash equivalent. Tenure reform entails land policy, administration, and legislation to improve the tenure security of all South Africans and to accommodate diverse forms of land tenure, including types of communal tenure. Redistribution focuses on the transformation of existing, racially biased land ownership patterns. Its scope includes the urban and rural poor, labor tenants, farm workers, as well as new entrants to agriculture. In 1999, the State set a formal target for the land reform program to transfer 30% of land that had been owned by white commercial farmers in 1994, which amounts to some 25 million hectares (Binswanger-Mkhize, 2014).

The Structural Reorganization of the Agricultural Sector

Land Reform and Redress

At present the near-consensus is that this has been a failure both in terms of the pace and performance of redistributed land – at most 8% of agricultural land has been transferred on which only 40% of beneficiaries are still active (Aliber and Cousins, 2013). A recent extensive audit into the distribution of land ownership in the Free State Province showed that only 3% of the land in the province was owned by black people in 2013 who bought it in the open market or received access through land reform programs – only about12% of the land that was acquired or approved for acquisition for restitution had been transferred to beneficiaries. Analysis of DLA's financial statements since the inception of reform showed that 76% of its budget was used to settle claims through financial compensation, nearly11% for land acquisition and 13% for support grants (Bureau for Food and Agricultural Policy Research [BFAP], 2013).

According to Binswanger-Mkhize (2014), the high failure rate of projects is primarily due to the implementation of group or cooperative farming models; late and poor quality post-settlement support; and inadequate capacity at the relevant public institutions. These factors result in uncoordinated programs from officials who take a top-down approach in all aspects of programs. The officials involve beneficiaries to a limited extent in identifying, planning, and developing their farms and protecting beneficiaries' investments. Tenure insecurity also serves as a major hurdle since the State has opted to prioritize access above ownership by not transferring property rights but rather making land available through probationary leases (Andrews et al., 2009). These leases are typically subject to constraints such as performance agreements or requires participation in training programs but international research has shown that these leases are rarely revoked and, therefore, do not serve any purpose (Binswanger-Mkhize, 2014). These leasehold titles serve as a disincentive for long-term investment and cannot serve as security for loans thereby making it difficult for beneficiaries to raise capital.

Sectoral Composition

Historically the livestock sector has represented the largest share of agriculture output given that most of South Africa is unsuited to cultivation (Table 3). This trend has strengthened since 1994 due to the growth in poultry (mostly chicken) consumption that increased from an average of 9.5 kg per person per year in 1970-74 to the current level of 36 kg per person per year (DAS, 2014). This is both the result of rising incomes that enabled people to transition to a higher protein diet and lower chicken prices relative to red meat alternatives. While this expansion increased the domestic demand for both maize (corn) and soybeans, it was not sufficient to offset the falling maize (corn) exports and the reduction in wheat production as discussed below. Ultimately, the field crop sector declined from the largest share of 44.8% in 1979-1983 to an average of 26.8% in 2009-2013, which is marginally larger than the 25.6% share of the horticultural sector, which increased from 16.2% during the same period. The reason for this shift is addressed below.

Table 3. Percentage Sector Shares in Output Since 1970

	Field Crops	Horticulture	Animal Production
1979-1983	44.8	16.2	39.0
1984-1988	39.5	18.0	42.5
1989-1993	34.5	21.3	44.2
1994-1998	33.2	23.6	43.2
1999-2003	34.0	25.7	40.3
2004-2008	26.8	26.5	46.7
2009-2013	26.8	25.6	47.6

Source: Directorate for Agricultural Statistics, 2014

Food and Trade

The provision of food is the primary role of the agricultural sector, and some argue that a country has to be self-sufficient in terms of its food supply in order to be food secure. This was the case in pre-1994 South Africa given its development agenda of import substitution and self-sufficiency. Given the reversal of this policy and the relative decline of the field crop sector, it is unlikely that the country is still food self-sufficient. According to Statistics South Africa (Stats SA, 2012) the average South African household spent more than 70% of its food budget on four main food groups in 2010/11, namely meat (25%), bread and cereals (26%), milk, cheese and eggs (MCE, 9%), and vegetables (10%). The net trade by the quantity of the main items in each of these primary food categories would, therefore, give a good indication of the current state of national food self-sufficiency. For this purpose, trade data was compiled from various sources for the period 1975 to 2013[1]. This included four meat groups (beef, chicken, pork and sheep)[2], four types of grain (white maize [corn][3], wheat, rice and sorghum)[4], five items in the MCE complex (fluid milk, milk powder, cheese, butter and eggs)[5] and eleven different sub-

[1] 2013 values preliminary or forecasted

[2]Beef: (DAS, 2013), Chicken: (DAS, 2013; SAPA, 2013; FAO, 2014) Pork:(SAPPO, 2013), Sheep: (DAS, 2013)

[3] Limited to white maize because it is the item included in the Stats SA Income and Expenditure Survey. Similar results are obtained through the inclusion of yellow maize but the transition to a net importer occurs only after 2000.

[4]Maize:(DAS, 2013; SAGIS, 2013), Wheat: (SAGIS, 2013), Sorghum:(DAS, 2013), Rice: (FAO, 2014)

[5]Fluid milk:(DAS, 2013; MilkSA, 2013; FAO, 2014); Milk powder and Cheese:(DAS, 2013; MilkSA, 2013); Butter: (DAS, 2013) Eggs: (SAPA, 2013)

classifications of vegetables (which include fresh, frozen, canned, dehydrated etc.)[6]. The net exports by quantity in these items was then calculated by subtracting the combined imported tons from the combined exported tons, and the results are presented in Figure 1. From this figure, it is clear that South Africa transitioned to become a net importer of food since the mid-1990s with a notable negative shift after 2000.

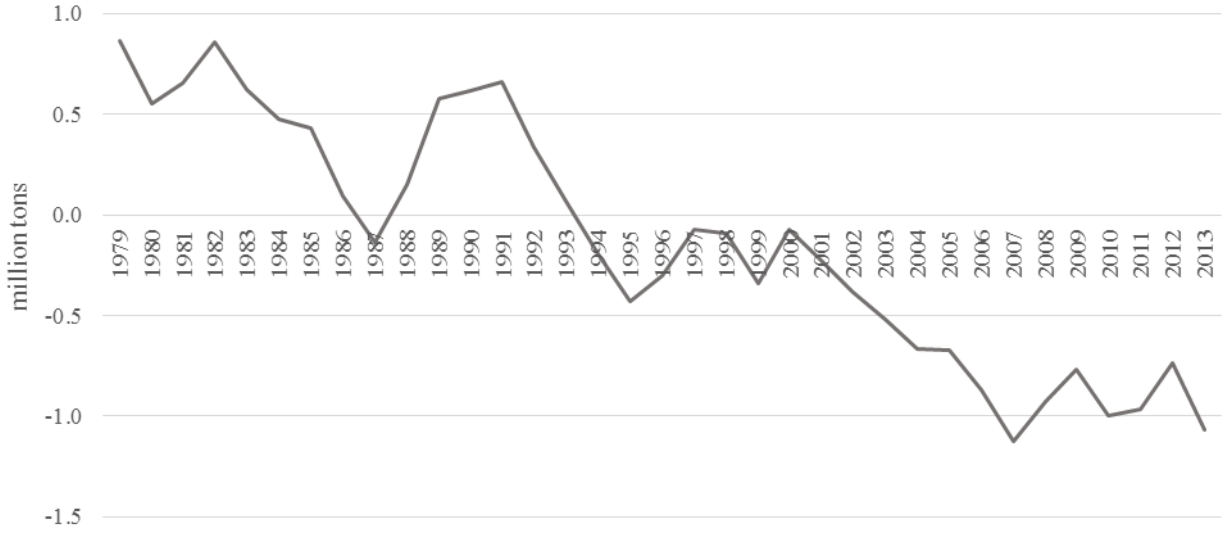

Figure 1. Net Exports Quantities of Meat; Cereals; Milk, Cheese, and Eggs; and Vegetables
Source: Compiled from various sources, see text

This period also saw a substantial decline in consumer price inflation from an average of 13.5% per year during the 1980s and 1990s to an average of 7.4% per year since 2000 (World Bank, 2015). The current status quo relating to primary food items, therefore, increases food security through improved food access due to higher affordability.

The growing share of the horticultural sector in total agricultural output and the rising share of valued-added agricultural exports in total agricultural exports have already been identified. The increase in the value of agricultural exports can be explained by the rise in fruit, vegetables, and wine exports, as summarized in Table 4. Exports of these items more than doubled in real terms between 1994 and 2011, thereby expanding their share in total agricultural exports from around 40 to above 50%. In real terms, exports of these items grew by 3.8% per year from 1994 to 1998 to between 4 and 7% from 1999 to 2011.

Shifting Patterns in Area Planted and Production under Field Crops

The deregulation of the agricultural sector and the removal of subsidies reduced the economic viability of marginal land and led to a reduction in the area planted under field crops from its highest level of 9.1 million hectares in 1988 to the current level of just above 5 million hectares (Figure 2). The areas removed from production where mostly moved to planted pastures or fallowed as a result of the increasing adoption of conservation agricultural practices. The area

[6] Vegetables: (FAO, 2014)

Table 4. Fruit, Vegetable, and Wine Exports Since 1984

	1984-1988	1989-1993	1994-1998	1999-2003	2004-2008	2009-2011
Total Fruit, Vegetables and Wine *(ZAR million real 2010)*	9 635	10 657	12 868	18 385	22 938	28 011
Fruit, vegetables and wine % share in total exports	36.4	42.7	35.6	50.2	57.6	53.3
Average annual real growth rate: Fruit and wine exports	-3.7	2.0	3.8	7.1	4.4	4.0

Source: Food and Agriculture Organization, 2014
Note: Trade data for 2012 and is 2013 is yet to be released

under maize (corn) and wheat as the main cultivated crops declined by 50% and 75%, respectively, within this period (DAS, 2014). The shift in wheat production is mainly due to a reduction in area planted in the northern summer production areas where the crop is subject to high climatic risks – too little winter rain and/or untimely summer rain – and the increasing profitability of competing crops such as soybeans. The area under soybeans exceeded that of wheat for the first time in 2013 and is projected to increase to close to a million hectares by 2022 due to the expansion of local processing capacity. The expansion of local processing capacity is in response to the rising demand for soybean oilcake by the growth in the poultry sector (BFAP, 2014).

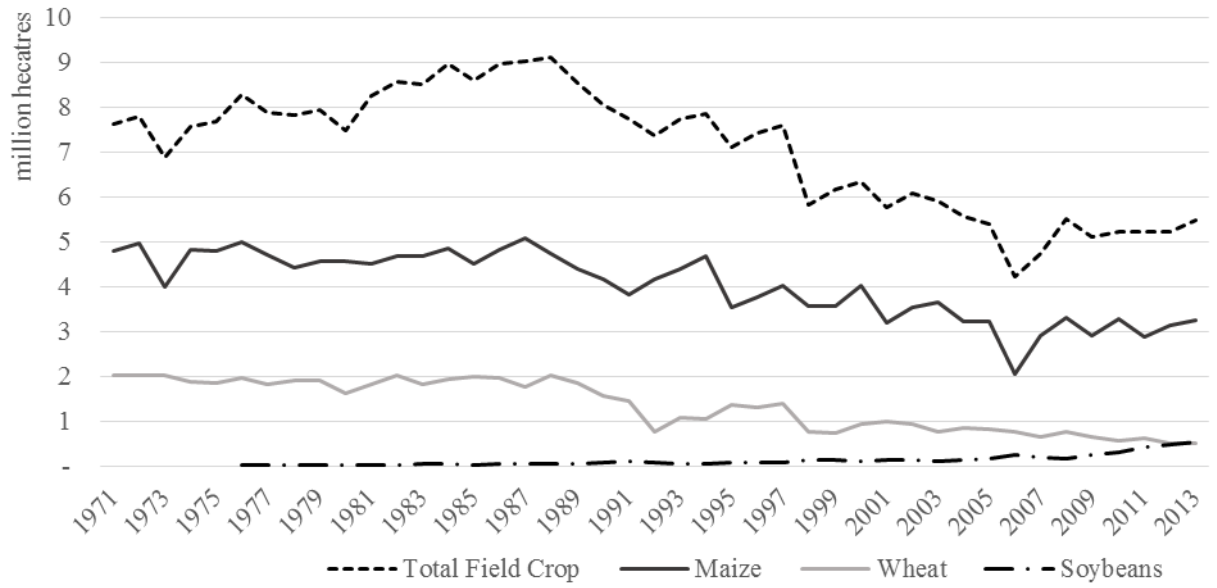

Figure 2. Area Planted under Field Crops 1971 to 2013; Total Field Crops, Maize, and Wheat
Source: Directorate for Agricultural Statistics, 2014

As expected, the removal of marginal land from production resulted in substantial efficiency gains as shown in Figure 3. Sugarcane is included in this analysis because its marketing was not reformed as substantially as other commodities and, therefore, provides a counterfactual scenario. From the Figure, it is clear that the trend for all the products is upward except for sugar cane, which showed a decline of 2.8% during the period under analysis. It is also clear that the

increase in maize (corn) and wheat yields only started to accelerate in the 1990s, providing further evidence that this was due to policy changes. During the period under review, the country remained a net exporter of maize because these yield increases offset the decline in area planted (BFAP, 2014). Demand for wheat continues to increase, and yields did not increase sufficiently to offset the decline in area; hence, the country imported more than 40% of consumption in 2013 (DAS, 2014).

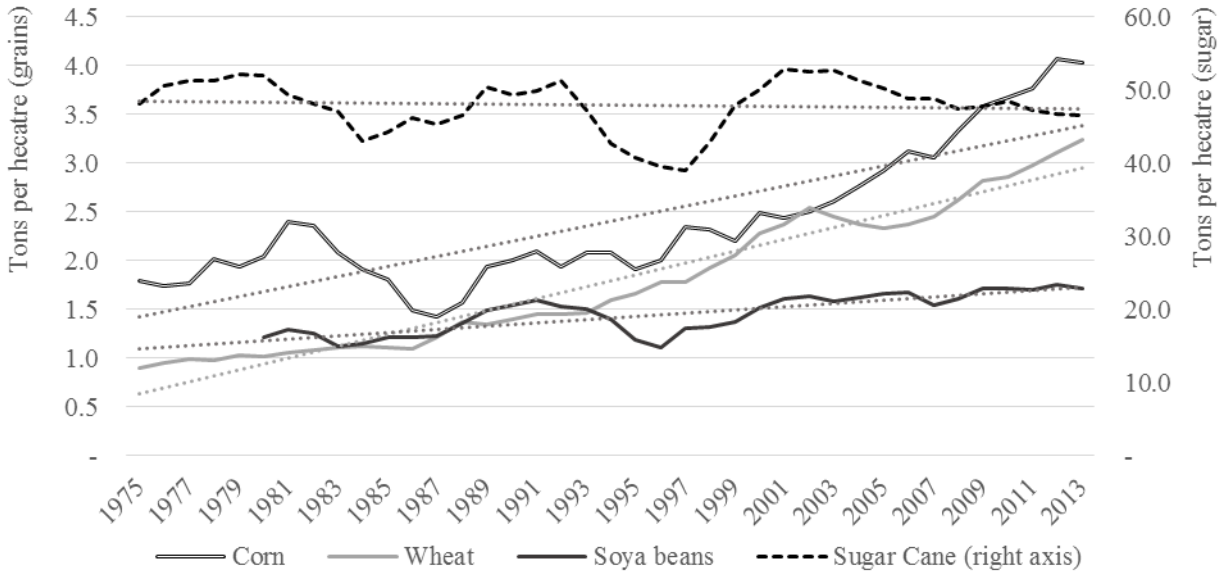

Figure 3. Five-Year Yield Moving Average 1975 to 2013
Source: Directorate for Agricultural Statistics, 2014

Employment

Figure 4 shows total agricultural employment and real value added per worker for the period 1960/61 to 2005/06 as compiled by Liebenberg (2012)[7]. It shows that agricultural employment reached its highest level of just over 1.9 million during the early 1960s and declined thereafter to just above 0.8 million in 2005/06. This trend of decline has continued with total agricultural employment estimated at 0.74 million in 2013 (Stats SA, 2014).

Agricultural employment pre-1994 is characterized by two distinct periods, pre- and post-1970. These periods and other labor related structural trends have been the subject of substantial research (e.g., Van Zyl et al., 1987). In short, the pre-1970 period is characterized by an increase in agricultural employment and area planted due to the replacement of draft oxen with tractors. During this period, most of the maize was still harvested by hand and hence an increase in area results in an increase in employment, thereby rendering capital and labor as compliments. During the 1970s, the South African economy started to experience labor shortages that put upward pressure on wages, especially in the mining and agricultural sectors. Favorable real interest rates, together with subsidized agricultural loans and tax incentives on capital items lowered the relative cost of capital to labor. This, together with the desire of farmers to have greater "control"

[7] More recent data is available but this represents the most consistent and complete long term dataset. Sources differ in terms of their inclusion of domestic workers on farms and seasonal labor.

over the harvesting process by not being uncertain about the labor supply resulted in a rapid rise in mechanized combine harvesting and a full transition to bulk grain handling: De Klerk (1984) studied a number of districts in the north-western maize (corn) production region for the period 1968 to 1981. At the start of this period only 30% of maize (corn) in the district was harvested by combine and 54% handled in bulk, but by the end, this had increased to 95% and virtually a 100%, respectively.

During the 1980s, the South African economy fell on harder times due to international sanctions, the fall in the gold price, and the depreciation of the local currency. This, together with rising interest rates, increased the relative cost of imported agricultural machinery and resulted in a short-lived four-year increase in total employment and a decline in output per worker that persisted until the mid-1990s. During this period, the policy objective of transferring labor to the rest of the economy was reversed with scholars highlighting the importance of the sector as a labor intensive employer (e.g., Van Zyl et., 1988).

By the mid-1990s, the output per worker started to increase again following the deregulation of agricultural marketing and the liberalization of trade, as discussed in preceding sections. Total employment continued to decline, albeit at a slower rate (see shaded area of Figure 4). Despite the decline in total employment, the sector is still relatively labor intensive. In 2010, the sector employed nearly 5% of the labor force while constituting almost 2.5% of the economy; thus, resulting in a labor force to GDP ratio of about 2:1. During this year, the mining and manufacturing sectors maintained labor force to GDP ratios of 0.2 and 1, respectively (Greyling, 2012).

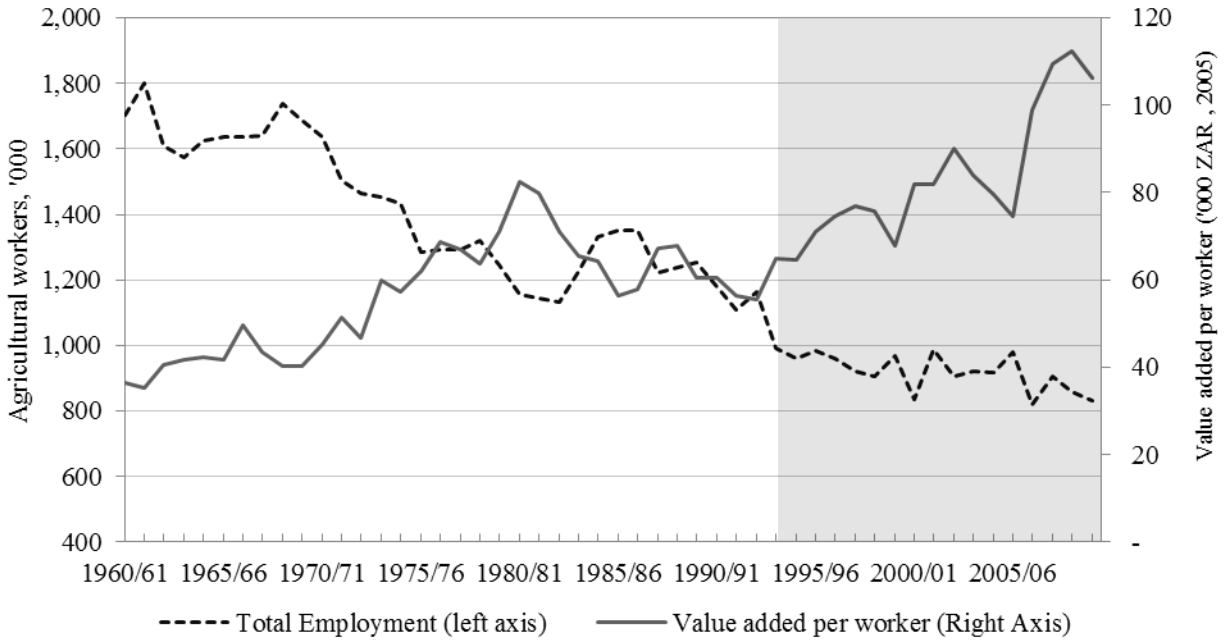

Figure 4. Total Agricultural Employment and Real Value Added per Worker
Source: Liebenberg, 2012

At present, the creation of employment is one of the main policy objectives of the State given the current average unemployment rate of 25.1% (Stats SA, 2014). Within this context, the National Planning Commission identified the agricultural sector in its National Development Plan as one of the major contributors to this goal. The plan envisions the creation of a million additional jobs through the expansion of intensive agricultural production due to expanded irrigation and more efficient water use; greater production on under-utilized land and increased smallholder production. It is envisioned that this will result in the creation of secondary employment through expanded agro-processing, input manufacturing, services and others (NPC, 2011).

Net Farm Income and investment

Figure 5 shows gross capital formation (GCF) and net farm income (NFI) of the South African agricultural sector from 1971 to 2013. Real NFI started its decline after the global food price crisis of the mid-1970s, and remained at low levels until the end of the century before making a rapid recovery to exceed pre-1975 levels in less than ten years. As the number of commercial farmers declined from about 90,100 in 1970 to the current level of 40,000 over this period, it is evident that the net income per farming unit increased substantially.

Historically gross capital formation has shown a high correlation with NFI, which is logical given that farmers cannot invest if they do not have the means to do so, and cannot earn profits unless they invest. As a result, GCF and NFI track closely from the mid-1970s. However, GCF remained flat after NFI started to increase in the 2000s. This could simply be the result of greater capital efficiency, or it could indicate that farmers are willing to invest sufficiently to maintain the current level of production, but not to increase production, thereby threatening the long-term sustainability of the sector.

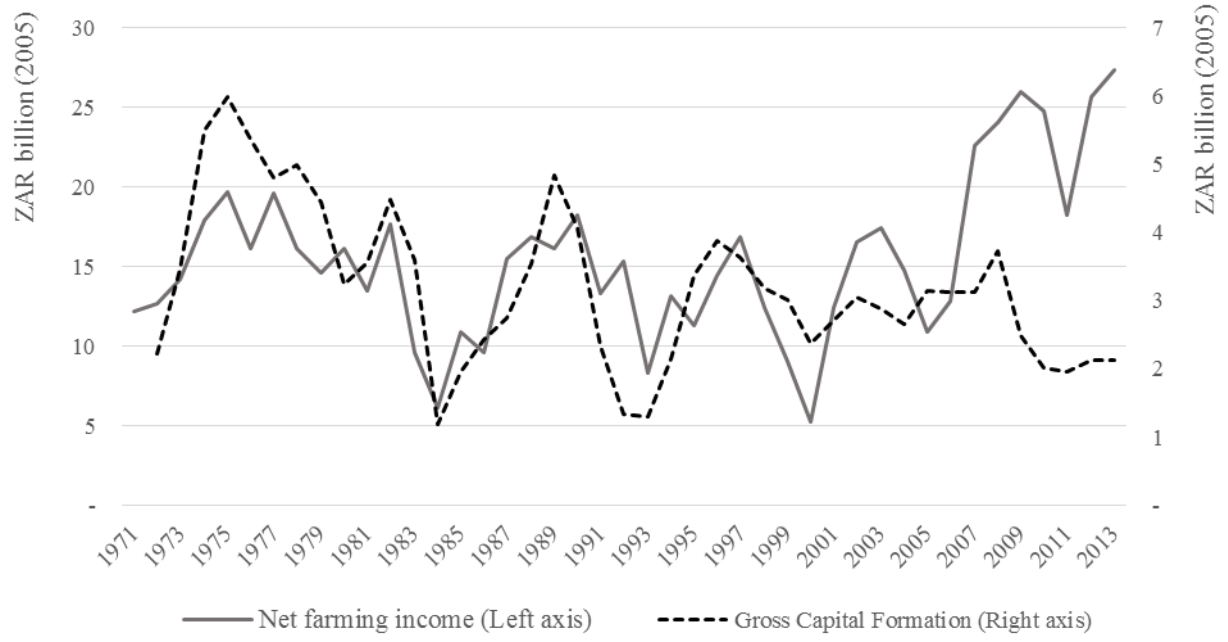

Figure 5. Net Farm Income and Gross Capital Formation of South Africa Agriculture from 1971 to 2013
Source: Directorate for Agricultural Statistics, 2014

Conclusion

Following the end of apartheid in 1994 the South African agricultural sector has undergone substantial policy reform towards greater demographic inclusivity, enhanced productivity and international competitiveness. To this end, the implementation redistributive land reform and smallholder support programs have achieved limited success to address the dualism of the sector. About 40,000 large-scale technologically advanced and mostly white farmers still produce much of the marketed output while about 4 million mostly black smallholder farmers produce mostly produce for additional food and income.

The transformation of the sector towards greater productivity and international competitiveness has been a success. Following the liberalization of trade, deregulation of agricultural marketing and removal of subsidies, the sector transformed toward increased livestock and horticultural production at the expense of field crop production. These reforms resulted in the removal of more than 4 million hectares of marginal land from production field crop sector that enabled substantial productivity increase and continued yield growth. While the maize (corn) productivity gain was sufficient to offset the decline in area planted, the same was not possible in the wheat and other industries. This resulted in increasing primary foodstuff imports, to such an extent that the country is now a net importer of primary food items by volume. The sector was able to maintain a positive trade balance, however, due to the strong growth fruit and wine exports. Employment by the sector continued its decline albeit at a slower rate since 1994 but output per worker showed a strong increase thereafter. In addition, there was substantial growth in sectoral net farm income since 1994, but was not coupled with an increase in gross capital formation due to greater capital efficiency or deferred investment beyond the sector which could threaten sustained growth.

Going forward, the agricultural sector in South Africa is in a much stronger position post-1994 due the increased productivity, limited reliance on subsidies, and international competitiveness; however, continued investments in research, education, and infrastructure is necessary to sustain this trend. At present, the limited transformation of the sector towards an inclusive and vibrant rural economy poses the biggest challenge to the sector's long-term sustainability.

Appendix

Conversion Table

	South African units	US equivalents
Currency	1 South African Rand (ZAR)	0.28 US cent (1994), 0.10 US cent (2003)
Area	1 Hectare	2.47 acres
Quantities	1 Metric ton of corn	39.37 bushels corn (56 lbs per bushel)
	1 Metric ton of wheat/soybeans	36.74 bushels wheat/soybeans (60 lbs per bushel)
Yield	1 Metric ton/hectare corn	15.93 bushels/acre
	1 Metric ton/hectare Wheat/Soybeans	14.87 bushels/acre

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