

CHAPTER 3

The Role of Targeted Intergovernmental Transfers in Rural Poverty Reduction

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3.1 Introduction

A renewed focus in South Africa is on the potential of the agriculture sector to be an engine for rural development and support the creation of economically vibrant and sustainable rural communities. For much of the first decade of democracy, the country's agricultural policy focused on addressing the historical inequities of apartheid-era discriminatory practices that skewed the racial (and gender) participation in agricultural activities and access to land. In 2004, government introduced a Comprehensive Agricultural Support Programme (CASP) aimed at improving the productivity of emerging farmers by providing them with agricultural inputs, infrastructure and technical training. Since 2009, government's strategy seeks to fast-track rural development and land reform, and radically restructure the country's agrarian economy as a catalyst for poverty reduction and wider societal transformation (Nzimande, 2014). At the time, a stand-alone ministry – the Department of Rural Development and Land Reform (DRDLR) – was established, dedicated to the socio-economic development of rural South Africa. The department's flagship policy is the Comprehensive Rural Development Programme (CRDP), which consists of three phases¹² and has two focus areas: (i) an integrated programme of land reform and agrarian change aimed at fostering social cohesion and development, and (ii) a rural development strategy aimed at improving economic, cultural and social infrastructure, public amenities and facilities, and information and communications technology (ICT) infrastructure.

Despite these laudable initiatives, agriculture's contribution to rural development and poverty reduction has been called into question. The scope for agriculture to be an engine for economic growth and job creation is limited because of poor coordination, implementation and administration of (and access to) key support programmes (Grewell et al., 2012). Although government has increased capital funding to small-scale farmers, only about 13% of eligible black farmers benefitted from the support services offered by CASP (Hall and Aliber, 2010). A recent study found that the CASP programme achieved little to no impact because the grant services were thinly spread across a large number of beneficiaries (Business Enterprises at UP, 2015).

The limited impact of agricultural support programmes has raised concerns about the efficacy of public investments in agriculture. Policy-makers argue that, although agricultural support programmes are needed, intergovernmental transfers could be used more effectively if directed at improving farm infrastructure and inputs, community-level infrastructure, market development and institutional re-engineering (Hall and Aliber, 2010). More effective use of intergovernmental institutional and fiscal instruments could spur rural development and aid poverty reduction. Furthermore, the potential role of the non-agricultural sector should not be ignored, as shown in a number of recent studies. For example, Hasan and Quibria (2004) found that, although agricultural activities were the most effective driver for reducing poverty in South Asia and sub-Saharan Africa, growth in the services and industrial sectors had the greatest impact on poverty reduction in Latin America and East Asia respectively. Based on the analysis of 25 countries, Cervantes-Godoy and Dewbre (2010) found that, while growth in agricultural productivity was the main driver in reducing extreme poverty reduction (denoted as income \leq US\$1.25 per day), support to the non-agricultural sector was more effective at reducing poverty among the relatively poor population (i.e. those classified as living on US\$2.00 per day).

The lack of South African empirical research is a major drawback in the current policy debates and recommendations about the effectiveness of agricultural support in rural development and poverty reduction strategies. In particular, whether (i) the inter-sectoral linkages/value chains needed for a pro-agricultural strategy are present in a world of increasingly interconnected markets, and if (ii) the potential pro-agricultural support-driven growth will facilitate the participation of the majority of poor people living in rural areas (Anriquez and Lopez, 2007).

When assessing the growth and participation effects of pro-agriculture strategies, four questions need to be answered (Christiansen et al., 2011):

- (i) Do agriculture-focused investments enhance overall growth more than similar investments in non-agricultural sectors?

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¹² Phase one of the framework is driven by programmes aimed at meeting basic human needs of citizens located in rural areas. The second phase focuses on the delivery of large-scale infrastructure development to support the transformation of rural economies, while the final phase focuses on facilitating the emergence of rural industrial and credit financial sectors through the creation of small, micro and medium enterprises and village markets (GCS, 2011).

- (ii) Do more poor households benefit from agricultural growth than from non-agricultural growth, and if so, which groups are able to participate in such growth and under which conditions?
- (iii) If agricultural growth results in slower overall growth but greater participation by the poor (compared to non-agricultural growth), then which (agricultural or non-agricultural) growth strategy will reduce poverty the most and under which circumstances?
- (iv) Will the results of (agricultural or non-agricultural) growth on poverty reduction be different if different measures are used to classify the poor?

To address these questions, a regression analysis is used to test and examine which source of (sectoral) growth matters for poverty, by applying dynamic panel data techniques to municipalities classified as rural in South Africa. A unique feature of the regression analysis is that effects of sectoral growth on poverty reduction is carried out using poverty measures that take into account the position of poverty line with respect to the mean of income distribution (in each region/municipality), as well as the shape of this poverty distribution.

3.2 Findings

3.2.1 Agriculture as engine of growth

In many developing countries, the argument for policies aimed at agricultural growth and development is that economic growth results from the export of surplus resources. The opposite has also been suggested, that increased wages in the non-agricultural sectors result in resource relocation and productivity increases in the agriculture sector (Tiffin and Irz, 2006).

The issue of whether agricultural growth drives economic growth or economic growth drives agricultural growth is of vital importance to policy-makers. If the former is true, then it validates current efforts to bolster rural economies through policies that enhance agricultural investments and productivity. If the latter is the case, then a more ap-

propriate policy could be one that targets growth in key non-agricultural sectors and encourages more linkages between such sectors and agriculture. Therefore, the first part of the analysis examines the links between agriculture and regional economic growth across municipalities.

Following Tiffin and Irz (2006), the agricultural value-added per worker (in the agriculture sector) and income per capita were analysed for a full sample of 234 municipalities as well as sub-samples of urban and rural municipalities over the period 1996–2014.¹³ The results of the analysis can be summarised as follows:

- For the full sample of 234 municipalities, per capita income does not influence agricultural value-added, but agricultural value-added affects per capita income.
- For the two sub-samples of municipalities, both agricultural value-added and per capita income influence each other in both urban and rural municipalities.

While knowledge about whether or not agricultural value-added per worker affects per capita income (or vice versa), this does not provide a complete picture. What is needed is to understand the response of one variable to an impulse or shock in another variable. Therefore, an analysis was done of the effect of an exogenous shock or innovation in agricultural value-added on per capita income (and vice versa). The results indicate that

- Across the full sample of municipalities, per capita income explains about 10% of the variation in agricultural value-added, while agricultural value-added explains about 19% of the variation in per capita income.
- For the rural and urban municipalities, per capita income accounts for relatively little of the variation in agricultural value-added, i.e. 3.4% and 0.5% respectively. On the other hand, in rural municipalities, agricultural income accounts for almost one-fifth of the variation in per capita income, providing clear evidence of the relative importance of the agriculture sector to incomes within these municipalities.

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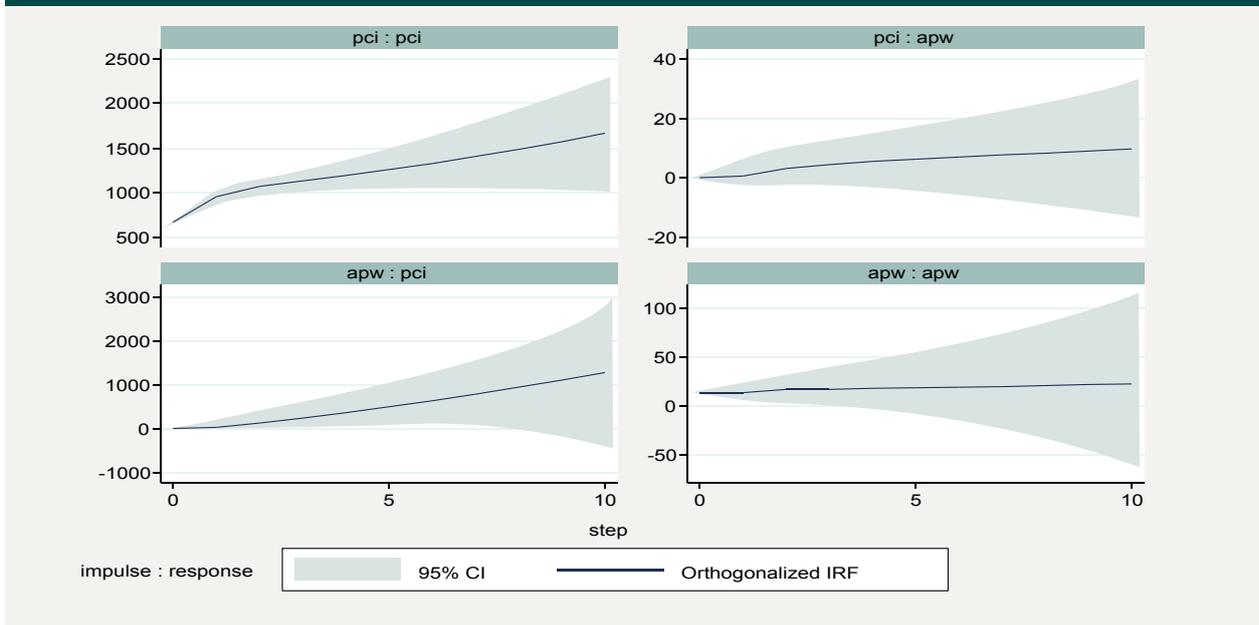
¹³ These sub-samples are based on the 2010 classification/categorisation of municipalities within the local government sphere by the Department of Cooperative Governance and Traditional Affairs (COGTA). According to this classification, South Africa's 234 municipalities fall into two broad categories: A and B. Category A includes eight metropolitan municipalities described as having large urban complexes with populations over one million and accounting for over 50% of all local government spending. Category B municipalities include four main types: (a) 19 B1 municipalities with characteristics of having secondary cities with large urban spatial pattern and responsibility for relatively higher operating budgets; (b) 25 B2 municipalities that have large town(s) as their urban core; (c) 113 B3 municipalities which are local municipalities with small towns and a relatively small percentage of its population living in smaller urban settlements, but with no large town as a core; and (d) 69 B4 municipalities which cover mainly rural areas characterised by the presence of no more than two small towns in their areas, communal land tenure and villages or scattered groups of dwellings, and typically located in former homelands. Based on this classification, the 52 Category A, B1 and B2 municipalities are classified as urban municipalities, and the 182 Category B3 and B4 municipalities as rural municipalities.

These results are supplemented with graphical analysis that shows the response of agriculture value-added (*apw*) and per capita income (*pci*) to innovations in (or exogenous shocks to) per capita income and agriculture value-added.

The bottom left quadrant of Figure 22 shows that a positive shock to agriculture value-added leads to an increase in per capita income. Similarly, the top right quadrant shows that a shock to per capita income has a positive effect on agriculture value-added. In both cases, these effects persist over a 10-year forecast horizon.

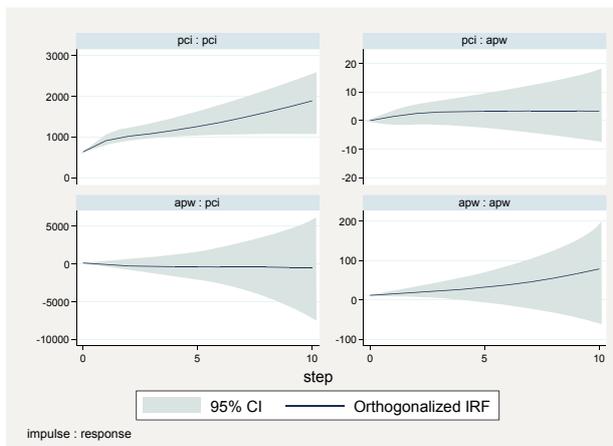
For large/urban municipalities, innovations in agriculture value-added (per capita income) has no impact on per capita income (agriculture value-added). However, in rural municipalities, innovations cause negative shocks to agriculture value-added and have a persistent negative impact on per capita income, while positive shocks in per capita income have a positive impact on future agriculture value-added.

Figure 22: Responses to innovations in *apw* and *pci* – full sample

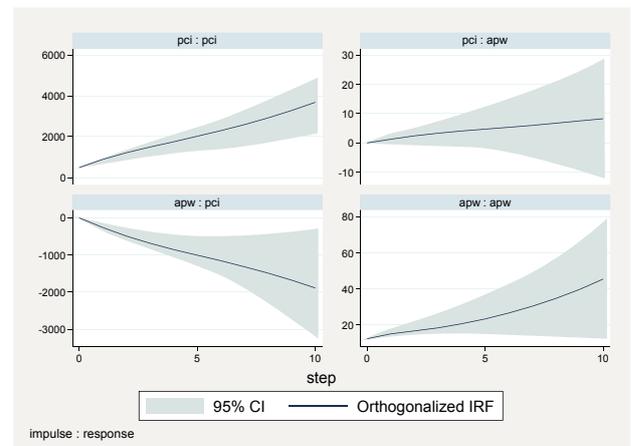


Figures 23 and 24: Responses to innovations in *apw* and *pci* – full sample

Sub-sample: urban municipalities



Sub-sample: rural municipalities



3.2.2 Indirect growth effects

In addition to contributing directly to overall economic growth, the development of the agriculture sector has indirect economic growth effects (see Johnson and Mellor, 1961). These indirect effects occur through three main channels: (a) the production channel, through which the agriculture sector forms forward linkages with other economic sectors via agro-processing activities, and backward links via demand for inputs from supply sectors, (b) the consumption channel, which occurs when people within the agriculture sector consume locally produced, non-tradable goods, and (c) the income effects channel through which increased agricultural productivity serves to lower food prices. Reduced food prices lowers the real product wages in the non-agricultural sector, providing a boost to profitability and investment in other non-agricultural sectors. Similarly, reduced food prices cause real consumption wages to rise, thus providing a direct benefit to poor wage earners in both urban and rural settings.

To gain insights into these channels, the relationship between agricultural and non-agricultural output is explored. Results for the full sample of municipalities indicate that a 1% growth in the non-agricultural sector raises the per capita growth rate of the agriculture sector by 0.03 percentage points. Although this effect is not statistically significant, it suggests that the non-agricultural sector creates growth-enhancing linkages with the agriculture sector. In the case of rural municipalities, growth in the non-agricultural sector does not create growth-enhancing linkages but has a negative and statistically significant impact on per capita agriculture value-added. This finding is consistent with the argument that, as a country's economy expands, growth in the non-agricultural sector leads to resources leaving the agriculture sector, which causes a slow-down in productivity or a decline in overall output.

Similarly, the analysis found that agriculture has a negative and statistically significant impact on non-agricultural sectors. This result is not surprising given the declining share of agriculture in South Africa's economy, and the increasing linkages within the country's non-agricultural sectors because of the adoption of technology and structural transformations. It mirrors results of similar studies, such as Tiffin and Irz (2006). The sub-sample of municipalities revealed a more interesting result: a positive (and strongly significant) reverse effect from agriculture to non-agriculture in rural municipalities – a 1% increase in annual

per capita growth in the agriculture sector raises the per capita growth rate outside the agricultural sector by 0.07 percentage points.

3.2.3 Poverty effects

The literature provides three main explanations of why the impact of growth on poverty differs across economic sectors.

- (i) People are better able to participate or benefit from growth that occurs in areas where poor people are located. Many studies have argued that agricultural growth would have a larger impact on poverty alleviation than non-agricultural growth because the poor are mainly concentrated in rural areas and rely on agriculture and related activities for their main source of income (Christiansen et al., 2011).
- (ii) Labour intensity is a key factor in determining a particular sector's impact on poverty (e.g. Loayza and Raddatz, 2006). The major asset of most poor people living in rural areas is their unskilled labour, and so growth in the agriculture sector (which in developing countries is mainly labour-intensive) would result in greater poverty reduction than, for example, growth in the less-labour intensive and technology-driven services sector.
- (iii) Differences in asset inequality, in particular land ownership, can explain why growth has different poverty-reducing effects across sectors. Bourguignon and Morrisson (1998) suggest that income inequality is lower in countries where favourable land distribution enables small and medium farmers to cultivate a larger share of available land. Similarly, in China where land distribution is relatively equitable, agricultural growth contributed up to four times more to poverty reduction than growth from industry and services (Ravallion and Chen, 2007). Conversely, in countries with high levels of land inequality – India (Ravallion and Datt, 1996) and Pakistan (Dorosh and Haggblade (2003) – agricultural growth either had the same poverty-reducing effect as the services sector (India) or contributed very little to poverty reduction in rural areas (Pakistan).

To assess whether or not the source of growth matters for poverty reduction, the three national poverty lines (Stats SA, 2014) were used: (a) the food poverty line, which is the

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¹⁴ Jung and Thorbecke (2003) find that the agriculture sector contributes the most to overall poverty reduction, followed by the services and informal sectors. They also find that, despite the manufacturing sector having the least impact on poverty reduction, the (unskilled) labour-intensive food processing and textiles subsectors within manufacturing made relatively large contributions to poverty reduction. Loayza and Raddatz (2010) report similar findings with growth in the relatively labour-intensive sectors of agriculture, manufacturing and construction having the most, and the capital-intensive mining, utilities and services sectors having the least, poverty-reducing effects.

¹⁵ The rand value of each poverty line is updated annually using CPI price data.

level of consumption below which individuals are unable to purchase sufficient food for an adequate diet (those below this line are either consuming insufficient calories or must change their consumption patterns); (b) the lower-bound poverty line, which includes non-food items that individuals obtain by foregoing food, and (c) the upper-bound poverty line, which is the level of consumption at which individuals can purchase adequate food and non-food items (Stats SA, 2014). The main findings were:

- Agriculture has a statistically significant effect on food poverty, irrespective of the poverty line. A 1% increase in agricultural growth per capita leads to the food poverty headcount reducing by about 1900 persons across all municipal types, and by about 2300 people across rural municipalities. However, when the depth of poverty and the presence of a large public sector are taken into account, this significant poverty-reducing effect is dampened. While both agricultural and non-agricultural growth have statistically significant food poverty-reducing effects, the effect of non-agricultural growth is on average 2.24 times greater than agricultural growth for all municipal types (i.e., urban and rural) and 2.3 times greater for rural municipalities.
- Growth within the agriculture sector has significant poverty-reducing effects and can be a powerful tool for raising households above the three poverty lines. However, when a large public sector is present and the depth of poverty is accounted for, growth in the non-agricultural sectors is a more powerful tool for reducing the headcount of persons living below all three poverty lines.

3.3 Conclusion

In South Africa, agricultural support programmes have had a limited impact on rural development and poverty. This raises concerns about the efficacy of public investments in agriculture, and whether intergovernmental transfers could be used more effectively if directed at the non-agricultural sectors as well as the agriculture sector. Therefore, the impact of agricultural growth and non-agricultural growth on poverty reduction and economic growth was explored.

Agriculture has a significant influence on average incomes within rural municipalities where on average, the agricultural sector's share of total gross value-added exceeds 50%. The results show that in rural municipalities, agriculture accounts for almost 20% of variation in per capita income, a figure close to the average for the full sample that includes both urban and rural municipalities. Overall, activities in the non-agricultural sector have a positive

impact on the agricultural sector. However, this impact is not statistically significant. For rural municipalities, growth in the non-agricultural sector has a negative and significant effect on their agricultural sectors. This finding is indicative of the declining role of agriculture as an engine of growth relative to emerging non-agricultural sectors. Nevertheless, agriculture remains a key source of growth-enhancing linkages with the non-agricultural sector within rural municipalities.

Compared to non-agricultural growth, growth within the agriculture sector has a higher and statistically significant effect on reducing food poverty and the poverty headcount. However, the poverty-reducing potential of agricultural sector growth declines when community services account for a sizable share of a municipality's economic activities, and when the depth of poverty or inequality increases. In this case, growth in the non-agricultural sector is a more powerful tool for reducing the poverty headcount.

3.4 Recommendations

With respect to creating conditions for rural development from agriculture-led growth, the Commission recommends that:

1. The Department of Agriculture, Forestry and Fisheries enhances agricultural productivity by establishing a framework for implementing, evaluating and monitoring key agricultural grants targeted at subsistence and small-scale farmers.
2. Agriculture-related intergovernmental transfers are distributed across recipient provinces in a manner that promotes equity and ensures access for targeted groups, especially emerging and subsistence farmers located within rural provinces and municipalities. This can be achieved through expanding the current disbursement criteria to incorporate weights for a province's share of national rural population, the proportion of a province's rural population with incomes below official poverty levels/measures, and the extent to which the rural population in a province participates in subsistence and smallholder farming.
3. A framework is established to supplement rural development initiatives. The framework would facilitate greater coordination and communication among departments and public entities tasked with driving rural development through entrepreneurial programmes, which create linkages between agriculture and non-agricultural sectors.