

UNIVERSITY OF FORT HARE

AGE 405 / 505

DEGREE EXAMINATIONS

NOVEMBER 2024

Time: 3 HOURS
Subject: AGRICULTURAL DEVELOPMENT
Subject code: AGE 405 / 505
Marks: 100

This question paper consists of 7 pages including the cover page

Internal Examiners

Professor Michael Aliber

Dr Nyarai Mujuru

External Examiner

Professor Michael Antwi

INSTRUCTIONS

Answer all questions in both Part A and Part B.

PART A

{45 points}

Question 1

Define what is meant by the term 'agriculture value added', and explain why it is an important concept in understanding a country's agricultural sector. [5 points]

Question 2

Explain why, when examining the trend in agriculture value added for a country, it is important that the trend is already adjusted for inflation. [5 points]

Question 3

One way in which a country's agricultural output can grow in value over time is if the country brings more land into production. Identify and briefly explain at least two other ways in which a country's agricultural output can grow in value over time. [5 points]

Question 4

In addition to examining a country's agricultural value added over time, it is often useful to consider the trends in agricultural employment and agricultural self-employment.

4.1 Explain the difference between agricultural employment versus agricultural self-employment. [4 points]

4.2 Explain how examining trends over time in a country's agricultural employment and agricultural self-employment is useful to understanding what is happening in the country's agricultural sector and the broader economy. [6 points]

Question 5

[20 points]

Consider the list of 12 themes / cases below. Select any 5 and for each, i) explain or define what the theme is about, and ii) explain its significance or potential significance in the South African context.

- Inverse farm-size productivity relationship
- Monsanto and Tyson Foods
- The economics of conservation agriculture
- Pastoralism in sub-Saharan Africa
- Agricultural insurance
- The EU's Common Agricultural Policy (CAP)

- Land redistribution
- Agricultural credit
- Aquaculture
- Market liberalisation
- Famine
- Rural non-farm employment

PART B

{55 points}

Consider the brief profiles of the two countries below, and then address the questions that follow.

South Africa

South Africa is a country in Southern Africa. As of 2022 the population was estimated at about 62 million people, of whom 44% are younger than 25 years-old, and of whom 68% are urban.

Although South Africa is regarded as a middle-income country with a GDP per capita of about \$7000, the country is also characterised by extreme inequality, which continues to have a strong racial dimension despite the move to multi-racial democracy in 1994. Moreover, although there has been some growth in the past decade, it has barely kept pace with population growth, such that per capita GDP has remained flat (not shown). In fact for the period 2010 to 2019, average annual growth of the economy was only 1.7% in real (inflation-adjusted) terms. Although agriculture continues to grow in inflation-adjusted terms, it accounts for less than 3% of GDP, and yet its share of GDP continues to slowly decline (see Figure 1). At present agricultural value added amounts to about \$7 billion per year.

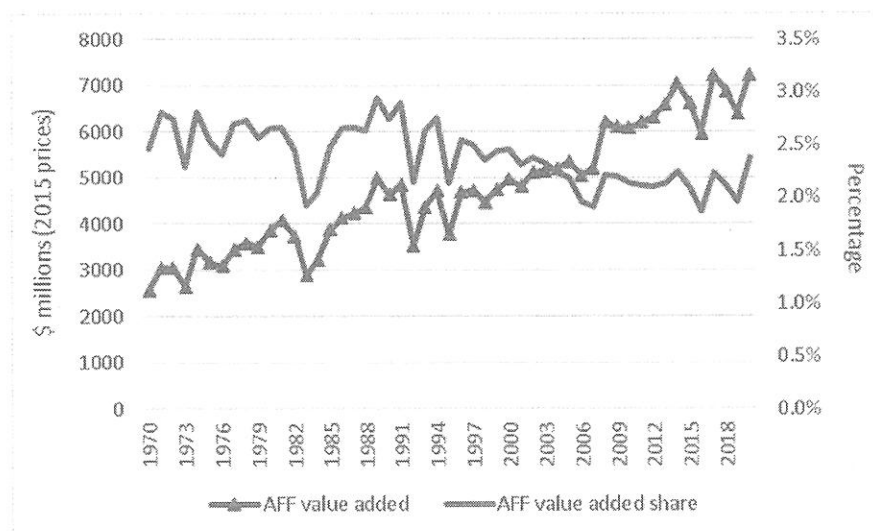


Figure 1: South African agriculture value added and value added share

Employment levels in the agricultural sector at present are somewhat uncertain due to weak and inconsistent statistics. As far as we know, the agricultural sector employs about 800 000 to 900 000 people in wage jobs, of which about half are seasonal and the other half are 'permanent'. This amounts to about 5% to 6% of total wage employment in the country. Despite some uncertainty about current levels and recent trends, the long-term trend is quite clear, as seen in Figure 2.

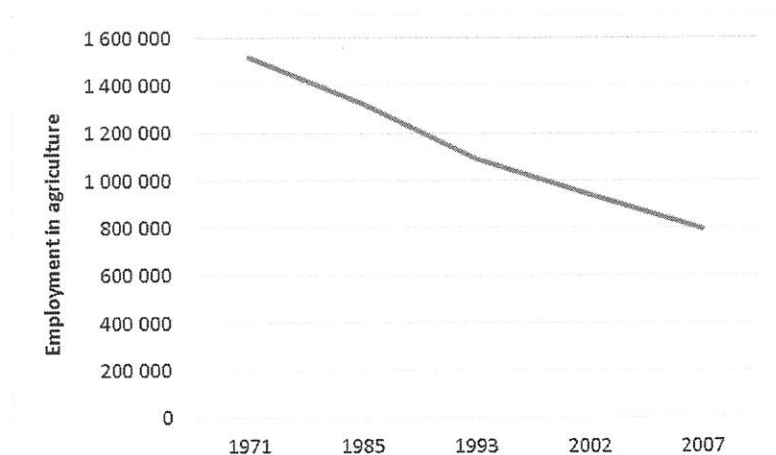


Figure 2: Employment in South African agriculture sector

However, it is important to note that there are in addition about 2 million households involved in small-scale agriculture, which is mainly subsistence-oriented (i.e. for own consumption). (Note that in many counties, it is common to combine 'employment' and 'self-employment' in agriculture into one trend, given the prevalence of small, family farms and the fact that employment and self-employment are not necessarily very distinct categories; in South Africa, however, the dualism of the sector is such that the convention is to distinguish wage employment on large-scale commercial farms from self-employment in small-scale farming.) Overall, South Africa has an on-going unemployment crisis, whereby more than 30% of the labour force is unemployed. A large number of households in South Africa depend on social transfers (e.g. grants) in order to survive.

South Africa is a relatively dry country of which only 14% of the land area is suitable for cultivation, of which one sixth is within the former homelands. Livestock and livestock products account for about half of agricultural gross income, while field crops account for 21%, and horticulture for 29%. Statistical evidence shows that the livestock sector employs very few people, while a hectare of irrigated farmland on average absorbs about 10 to 15 as many workers as a hectare of non-irrigated arable farmland. The main crops are maize, wheat, fruit and wine, sugar cane and potatoes. The main livestock species by production value are cattle, poultry, sheep and goats, and pigs.

The vast majority of the measured economic contribution of agriculture is attributed to the large-scale commercial farming sector. This sector is characterised by private freehold tenure, in which owners have more or less exclusive rights based on title deeds. Average farm size is in the order of 2000 hectares, of which the majority is extensive grazing. The majority of small-scale farmers, on the other hand, reside in so-called 'communal areas' where most land is held in terms of customary tenure with somewhat limited rights. Arable

plots are typically 1 hectare or less, while households also have access to communal grazing, which tends to be highly congested.

South Africa's agricultural trade balance is positive. Over the period 2015-2020, on average the value of agricultural exports exceeded that of agricultural imports by 55%.

Moldova

During most of the 20th century, Moldova was part of the Soviet Union, however it became an independent country in late 1991 when the Soviet Union was formally dissolved. As Figure 3 shows, the country's economy went through a shocking decline from 1991 for the next 8 years or so, at which point it bottomed out and began a slow but steady recovery. The reason for this unusual experience is seemingly that, prior to 1991, Moldova depended a great deal on the Soviet Union for economic support, and was deeply integrated into the Soviet economy; with the collapse of the Soviet Union, however, that support disappeared, as did the advantages of being part of the Soviet economy, e.g. a more or less guaranteed market for Moldova's exports. Moldova had to undergo far-reaching economic reforms, in effect through the privatisation of large numbers of state-owned enterprises and the gradual acceptance of capitalism as the main economic system.

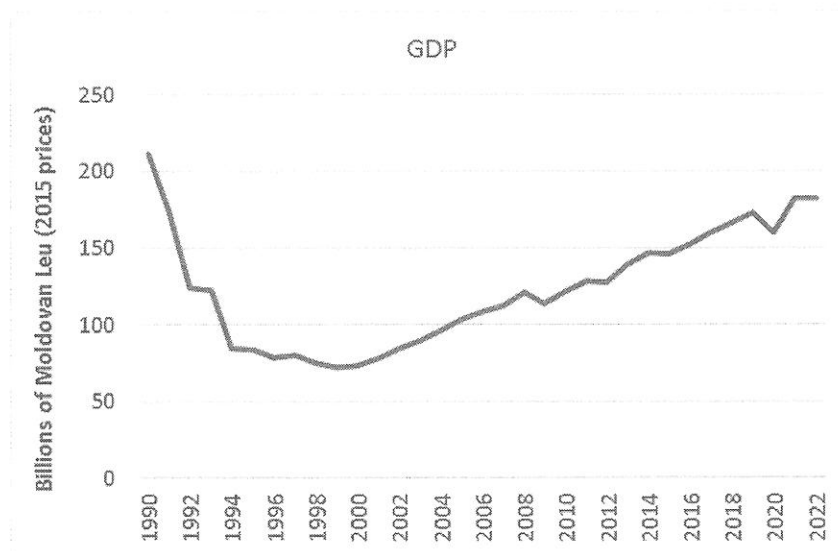


Figure 3: Moldovan GDP

Despite the post-2000 recovery, Moldova remains one of the poorest countries in Europe, with a GDP per capita of about \$6000. Moldova has a total population of only 2.6 million people in an area of just under 34 000 square kilometres; by way of comparison, this is not quite twice the size of Gauteng, which is 18 000 square kilometres. About 57% of Moldova's population is rural.

About 72% of Moldova's agricultural land is arable. The main crops grown in Moldova include wheat, maize, sunflower, sugar beet, vegetables, potatoes, fruit plantations, and vineyards. Livestock farming accounts for approximately 34% of the country's agricultural production by value, and involves mainly poultry, pigs, cattle, sheep and goats.

Figure 4 shows the value added for Agriculture, Forestry and Fisheries (AFF) at 2015 prices, as well as the AFF value added share.

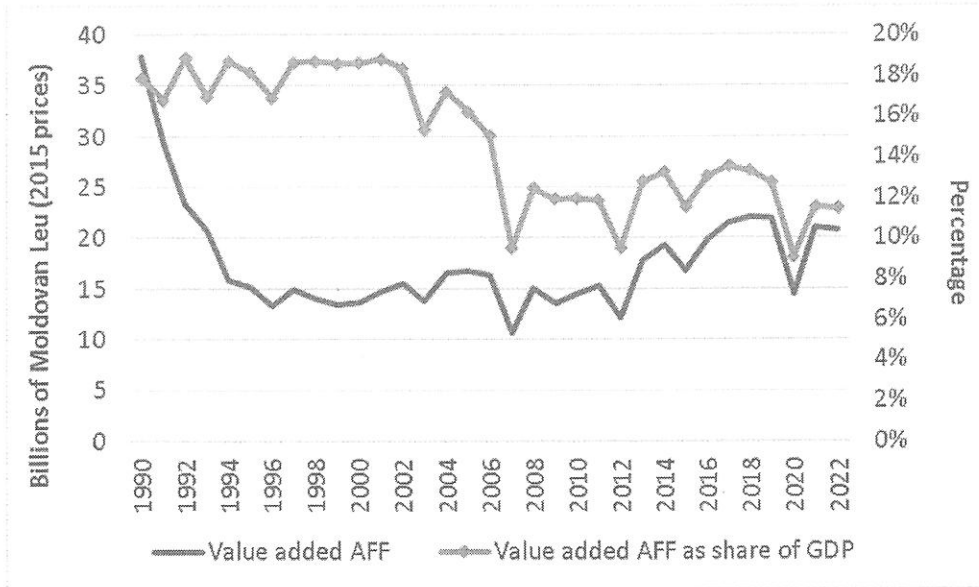


Figure 4: Moldovan value added for Agriculture, Forestry and Fisheries

For the same 2000 to 2021, Figure 5 shows employment and self-employment in agriculture. As of 2023 the unemployment rate is about 5.5%, down for a high of unemployment of 13% in 2006.

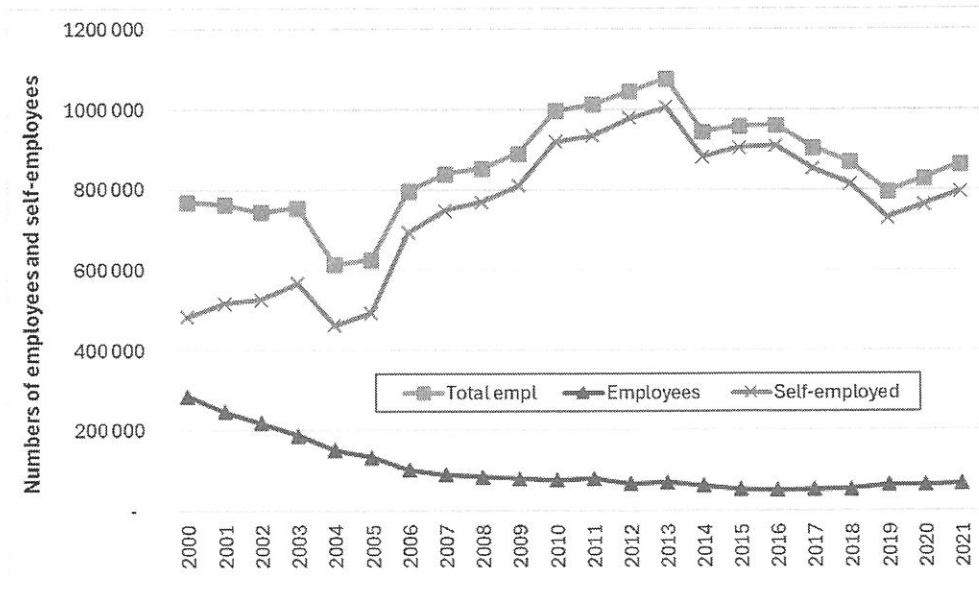


Figure 5: Moldovan agricultural employment and self-employment

In recent years, agriculture exports have tended to exceed agricultural imports by 50% to 70%. Meanwhile, agricultural exports account for about half of Moldova's exports.

Moldova is dominated by smallholder farmers, with average farm size being about 8 to 12 hectares. Most farmland is privately owned, however this was the result in an ambitious privatisation programme following the collapse of the Soviet Union, prior to which land was owned by the state and farmed mainly by means of agricultural collectives which on average were about 2000 hectares in size.

Question 6

[30 points]

Consider the following three aspects of the agricultural sectors of South Africa and Moldova. For each, of these three aspects: i) outline the similarities and differences between the two countries, and ii) explain why the similarities or differences exist. For instance, how do farm sizes and tenure compare and contrast between South Africa and Moldova, and what accounts for these similarities and /or differences?

The three aspects upon which you must comments are as follows:

- 6.1 Farm size and tenure type [10 points]
- 6.2 Agricultural employment trends [10 points]
- 6.3 Agricultural trade [10 points]

Question 7

[25 points]

Suppose you are Moldova's Minister for Agriculture. What lessons can you take from South Africa to help guide how you will approach the agricultural sector of Moldova?

