

The Evolution of Agricultural Price Incentives in Sudan(1970-2002)

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the agricultural sector has been characterized by

Problems

The poor performance

Control on production and marketing of crops

Protection of consumers and domestic production

government intervenes in relative agricultural prices through direct or indirect policies or both.

Unsatisfactory domestic and external performance

Series of development plans and programmes

Development Plans and Programmes

Most of them, either adjusted or terminated due to either their failure or a change of government

1970 - 1977

Five-year Plan + 2 years

Extended 2 years

1978 - 1985

SYP + Economic Recovery Programme (ECRP) * SAP

Gov. Change

1986 - 1990

Four-year Economic Salvation Programme (ESP)

Gov.t Change

1990 - 1993

National Economic Salvation Programme (NESP)

Merged in NCDS

1992 - 2002

10-(NCDS)

Completed

to examine the impact of macroeconomic policies on the evolution of price incentives for farmers in Sudan as a whole and farmers in Gezira scheme as a special example.

Nominal protection coefficient

$$NPC_i = P_{id}/P_{ib}$$

$$P_{ib} = P_{if} \cdot E_o - R - S - M$$

For wheat, which is an import-substitute food crop, the formula used to adjust border price is as follows:

$$P_{ib} = P_{ic} \cdot E_o + R + S + M$$

Decomposition of Agricultural Prices

The impact of government intervention and the exogenous factors on the evolution of relative domestic prices of cotton, sorghum, groundnuts and wheat in Sudan were estimated using Quinroz and Valdes (1993) and Bautista (1998) framework.

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$$P_{id} = P_{ib} \cdot E \cdot T (1+M)$$

By considering the relative prices of domestic products

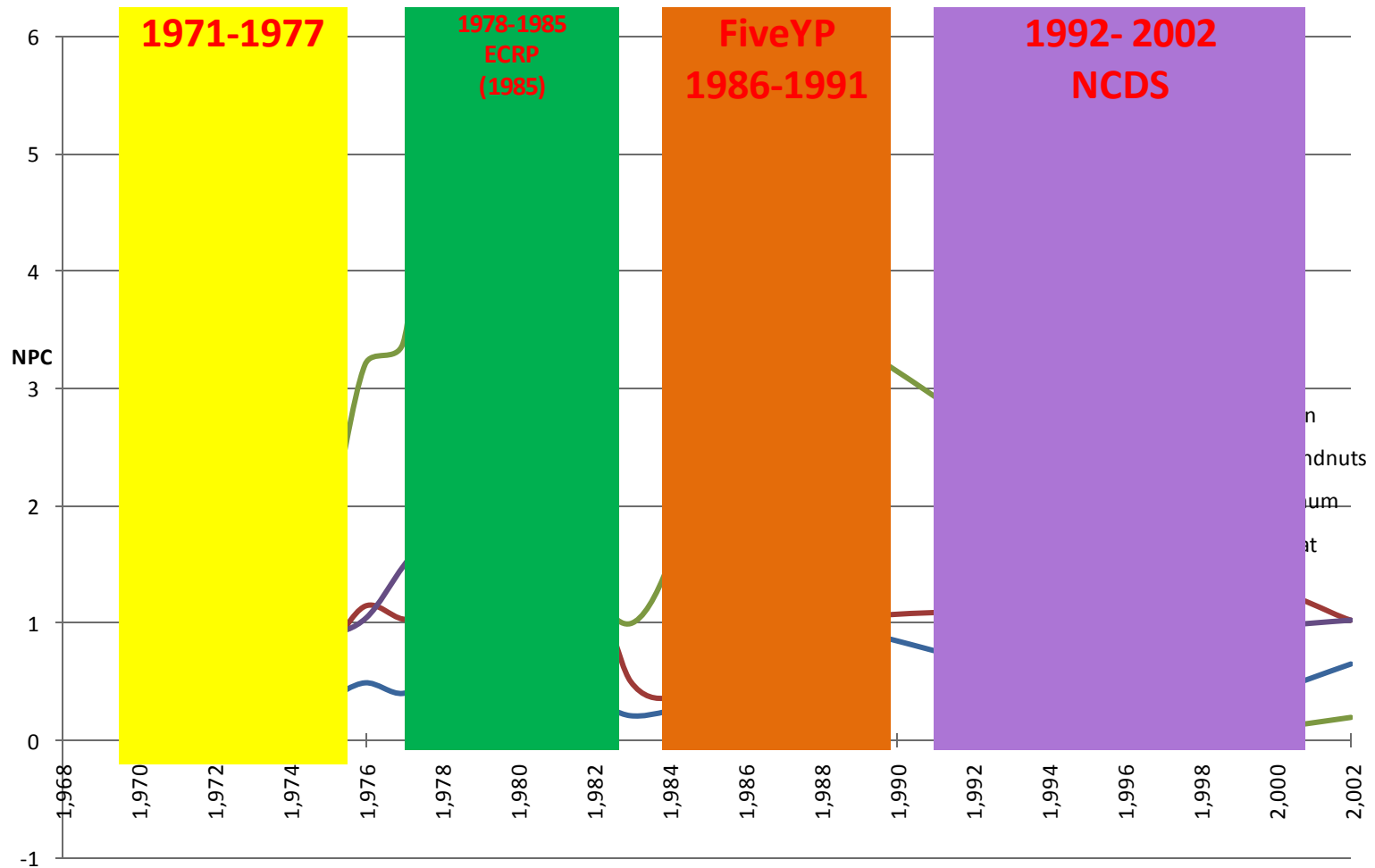
$$\frac{P_{id}}{CPI} = \frac{P_{id}}{P_{ib} \cdot E} \cdot \frac{P_{ib}}{CPI^*} \cdot \frac{CPI^* \cdot E}{CPI}$$

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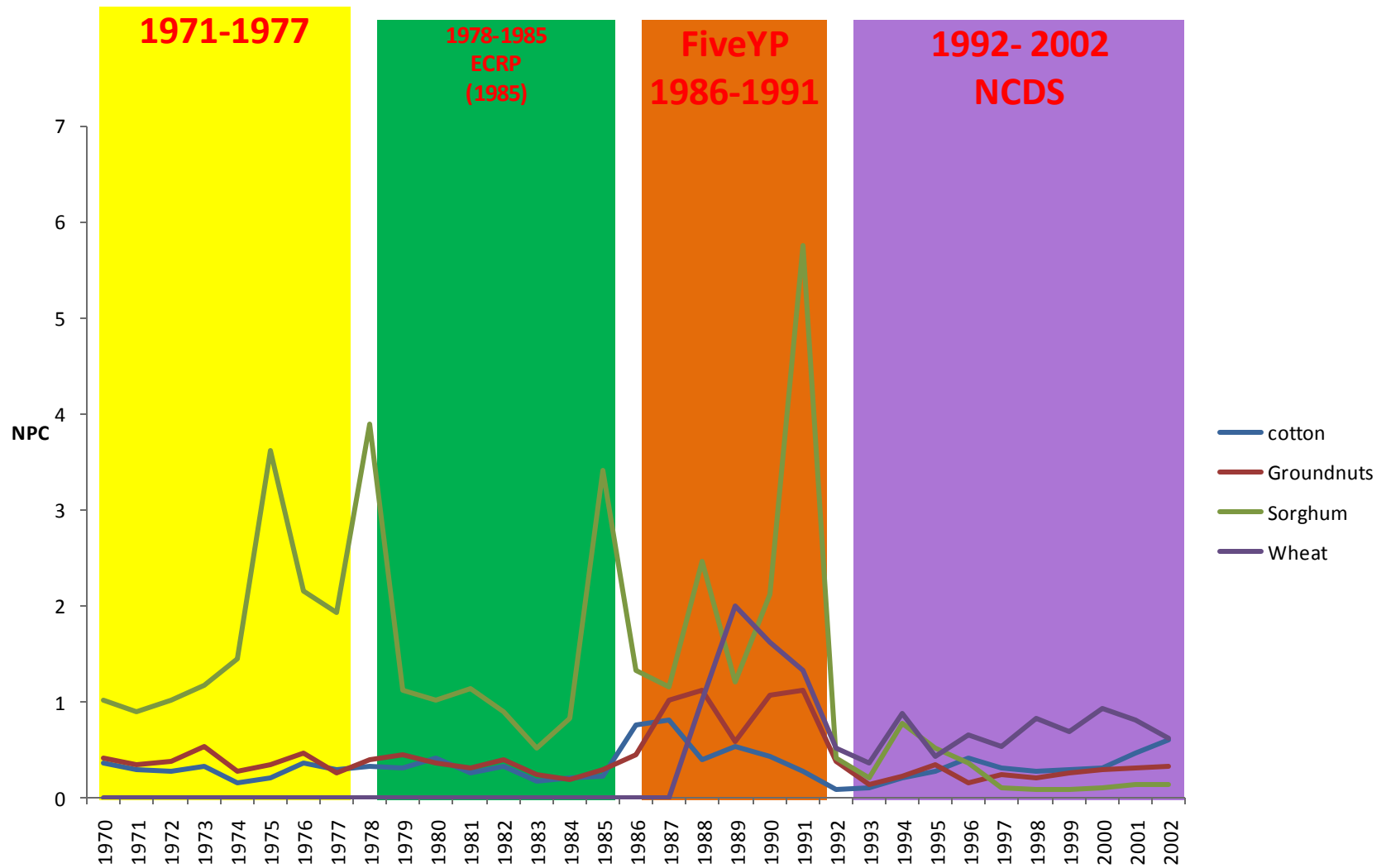
$$\frac{P_{id}}{CPI} = \frac{P_{ib}}{CPI^*} \cdot \frac{P_{id}}{P_{ib} \cdot E} \cdot \frac{CPI^* \cdot E}{CPI}$$

- the real farm gate price can be written as follows:
- $RP_{id} = P_{ib}^* \cdot NPC_i \cdot RER$
- By obtaining the natural logarithms on both sides of above equation and taking the first difference, we will get:
- $\Delta \ln RP_{id} = \Delta \ln P_{ib}^* + \Delta \ln RER + \Delta \ln T + \Delta \ln (1+M)$

Nominal protection coefficients for the principal crops in the Sudan, 1970-2002



Nominal protection coefficients for the principal crops in the Gezira scheme, 1970-2002



Decomposition of changes in domestic prices of the principal crops in Sudan and Gezira scheme (1970-2002)

	1970-1985		1985-1991		1992-2002	
Cotton	Sudan	Gezira scheme	Sudan	Gezira scheme	Sudan	Gezira scheme
Changes in relative domestic price	-1	-14	-32	-46	-28	-30
Changes in real exchange rate	19	19	-57	-57	37	37
Change in sectoral protection (NPC)	12	-1	75	60	-61	-62
Changes in relative border price	-32	-32	-50	-50	-5	-5
Sorghum						
Changes in relative domestic price	44	18	-7	-33	-82	-86
Changes in real exchange rate	19	19	-57	-57	37	37
Change in sectoral protection (NPC)	10	-16	70	44	-89	-93
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Decomposition of changes in domestic prices of the principal crops in Sudan, 1970-2002

		1970-1985		1985-1991		1992-2002	
		Sudan	Gezira scheme	Sudan	Gezira scheme	Sudan	Gezira scheme
Groundnuts							
Changes in relative domestic price		12	8	-47	1	-21	-93
Changes in real exchange rate		19	19	-57	-57	37	37
Change in sectoral protection (NPC)		-9	-13	49	97	-52	-124
Changes in relative border price		2	2	-39	-39	-6	-6
Wheat							
Changes in relative domestic price		-1	-10	-1	-8	-6	-34
Changes in real exchange rate		19	19	-57	-57	37	37
Change in sectoral protection (NPC)		-28	-34	35	28	121	-149
Changes in relative border price		8	8	21	21	78	78

Changes in Average Area, Output and Yield of Cotton and Groundnuts in Gezira Scheme by Development Planning Phases During the Period 1970-2002

	1970-77 to 1978-85	1978-85 to 1986-91	1986-91 to 1992-2002
Cotton			
%Change in area	-12.8	-29.2	-32.9
%Change in output	-25.9	-12	-42.1
%Change in yield	-12.6	23.4	-12.5
Groundnuts			
%Change in area	-20.3	-48.1	83
%Change in output	-64.2	-28.5	130
%Change in yield	-52.4	41	16.7

Changes in Average Area, Output and Yield of, Wheat and Sorghum in Gezira Scheme by Development Planning Phases During the Period 1970- 2002

	1970-77 to 1978-85	1978-85 to 1986-91	1986-91 to 1992-2002
Sorghum			
%Change in area	27.8	28.8	-7.7
%Change in output	12.6	17.4	65.4
%Change in yield	-11	-11.6	82.1
Wheat			
%Change in area	-6.7	21.6	-24
%Change in output	-32.9	107	-27
%Change in yield	-26.2	51	3.2

conclusion

- -The macroeconomic and trade policies in Sudan resulted in price distortion, which negatively affected agricultural production performance.
- -Although some measures were taken to ensure recovery of producer prices, they were still far below international prices. - Government policies were key in reshaping the direction of agricultural production in Sudan against the direction of prices.
- -since farmers are rational and expected to respond to price incentive,then, promotion of farmer freedom in decision making will enhance his response to price incentive.
- -the adoption of market oriented macro economic policies will enhance their capacity to take appropriate market related decision on crop choice and acreage.



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Thank you