ARGENTINA

ECONOMIC INJURY TO THE COTTON SECTOR AS A RESULT OF LOW PRICES[1]

1. Introduction

The cotton sector is the main source of employment and revenue for many Argentine provinces. Favorable international cotton prices in 1988/89, combined with a profound transformation in the Argentine economy as a result of free market reforms, promoted investments and infrastructure modernization that increased competitiveness and productivity in the cotton sector. Argentina understood that to be a successful player in a globalized world, our producers have to compete for markets with improved quality and lower prices for their products, the only legitimate tools of competition in the marketplace. The consequence of these transformations was a significant growth for the period 1991-1997 and historical records for planted area, production and exports.

However, the reduction in international cotton prices that started in 1996/97 reaching today the lowest level in 29 years, coupled with weather problems in our producing areas have resulted in the collapse of the Argentine cotton economy. As reported by the International Cotton Advisory Committee (ICAC)[2]: "The cotton sector in Argentina is in the doldrums". Planted area, production and exports are at historic low levels and alternative crops such as wheat, soybeans and sunflowers are replacing traditional cotton area, since prices do not cover production costs. At the present time, more than 50% of total ginning capacity is idle due to scarcity of raw material, reduced demand and competition from inexpensive imported textiles. Low prices have increased producers and ginners debt/asset ratio to untenable levels resulting in a significant increase in bankruptcies.

In January 2002, the Government ended the 10-year exchange rate regime that pegged the peso to the dollar resulting in a depreciation of the peso that will improve its terms of trade. However, the shortage of hard currency revenues forced the reintroduction of export taxes (10% for cotton) and elimination of exports rebates, that together with higher production costs from energy, input prices and dollar denominated debts, will offset most of the competitiveness gained with the currency devaluation.

Another troubling development is the response to low cotton prices by major players in world cotton production and trade. These countries have again resorted to government intervention to protect their producers, insulating them from market signals and passing the needed adjustments to producers of non-subsidizing countries like Argentina. The present trend of increasing government intervention in world cotton markets is not only inconsistent with the multilateral principles of long term policy reform, but causes overproduction, which in turn depresses prices and prompts demands for yet more support. It is no surprise then that Argentina's inability to compete with the treasuries of major world economies is facing today the worst crisis ever of the cotton industry.

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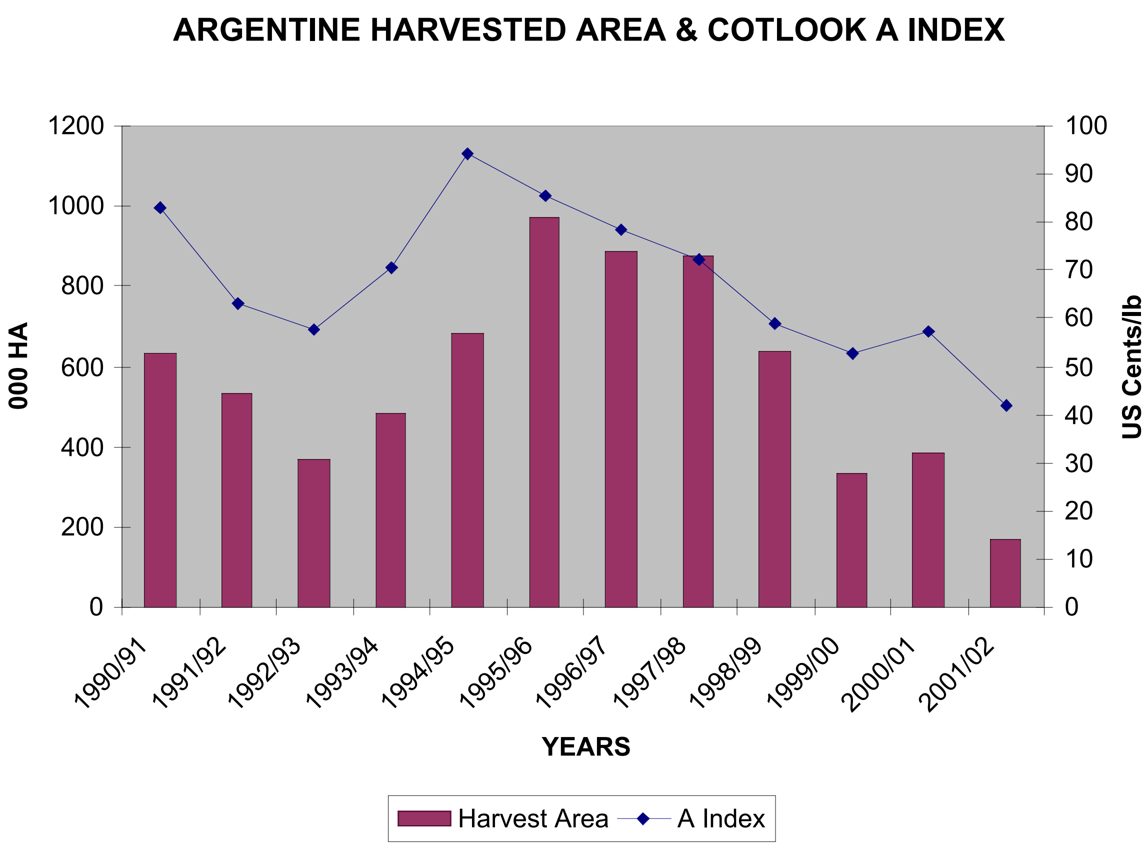
[1] Prepared for the Working Group on Government Measures of the International Cotton Advisory Committee

[2] *Cotton: Review of the World Situation, Volume 55-Number 4, March-April 2002*

2. Overview of the cotton sector since 1998

From 1998/99 to 2001/02, the Argentine cotton sector has been contracting as a result of decreasing international prices. Planted area and production in 2001/02 are setting historic low records with 174,000 hectares planted to cotton (76% reduction from 1998) and estimated production of 73,000 tons of lint (63% less than 1998). These figures are enough by themselves to explain the difficult present situation. However, the decline is even more significant if we use a 10 year average of acreage and production instead of 1998/99, since record prices during 1994/95 ($0,9275/lb Cotlook A index) resulted in record area and production as well (1,010,000 hectares and 437,000 tons of cotton lint in 1995/96).

As the next chart shows, the contraction of the cotton sector started in 1997/98 when adverse weather conditions and pest infestation prevented the harvest of the largest planted area in Argentine history (1,13 million hectares). Since then, lower prices, increased government supports in many countries, higher planted area in our main lint market (Brazil) and reductions in consumption, resulted in the lowest producer prices received since 1991/92 (u$s186/ton), constant reductions in planted area, yields and production.



Today's cotton sector is quite different from the 1994-1998 period, when improvements in international prices prompted investments and modernization of production and ginning equipment.

Despite the fact that domestic consumption is dropping, exports of cotton lint from Argentina are estimated to set another historic low record of 65,000 tons for 2001/02, a 77,5% reduction from 1996/97 were exports reached a record high 290,000 metric tons.

3. Impact on production:

From 1994/95 to 1998/99 Argentina planted an average of 922,420 hectares of which 88% were harvested representing an average of 810,828 hectares. It is important to note that during the 1997/98 campaign, one of the worst floods ever devastated the main producing areas of Argentina (Northeast of the country) and only 877,900 hectares were harvested from a record planted area of more than a million hectares (the largest in 15 years). This had a significant influence in producer's planting decisions for the next season.

During the last 3 years, low cotton prices impacted heavily in producer's decisions with only 309,287 planted hectares, which represent a 58% reduction from a 10-year average (1989/90-1998/99). Reduced-planted area resulted in significant reductions in cotton lint production. During the last 3 years (1999/00 to 2001/02) the production average was 127.667 tons, a 61% fall from the 5-year average of 327.360 tons (1994/95-1998/99). Production for 2001/02 is expected to plummet to 74,000 tons from 167,000 tons in 2000/01.

Season	**Cotton Area (Hectares)**		**Fiber Production**	**World Price Index "A"**
	Planted	***Harvested***	***(Metric Tons)***	***US cents/lb***
1995/96	**1,010,000**	**969,400**	**437,000**	**85.60**
1996/97	955,600	887,140	338,000	78.55
1997/98	1,133,500	877,900	311,000	72.20
1998/99	751,000	639,700	200,000	58.90
1999/00	345,950	332,100	134,000	52.80
2000/01	407,980	384,850	165,000	57.20
2001/02	**173,930**	**170,000**	**73,000**	44.00

4. Impact on related industries

Argentina increased its ginning capacity significantly from 1994 to 1998 reaching a total of 2,5 million tons of raw cotton. Processed volumes when prices were at or above the long-term average (72 cents/lb since 1973/74), were 541,500 tons (from which 78% represent private ginners and 22% cooperatives). However, when prices were below the long-term trend, spinning and ginning processing was reduced to 186,000 tons of raw cotton in 2000 equivalent to a 66% decrease (83% is from private ginners and 17% from cooperatives).

While ginning costs have oscillated during the last seven years between $45/ton to $80/ton, the price level of the last 3 years represents a loss to ginners estimated in $22,5 million/year (a total of $67,2 million since 2000). The collapse of the cotton sector is reflected in the high level of indebtedness of producers and ginners estimated at $600 million, equivalent to twice the size of Agricultural GDP in the largest cotton-producing province of Argentina.

5. Impact on the employment

Total farm employment in raw cotton production (planting, cultural practices and harvest) amounts to 93,470 workers (this figure includes 32,060[3] cotton producers in Argentina and is based on average harvested area of 810,828 hectares). The ginning sector employs 3,946 workers and the marketing and input supply chain represents 12,550 additional employees[4].

Cotton	***Employment***
Primary agricultural sector	*93,470*
Ginning industry	*3,946*
Transportation, Marketing and suppliers	*12,550*
TOTAL	***109,966***

From 1999/00 to 2001/02 employment in the cotton sector decreased to an average of 70,400 workers, representing **a reduction of 64% in employment**. These figures have been obtained from official employment records of registered workers and it is likely that they are underestimated. According to private estimates there are 50,000 non-registered workers, that will increase total labor loss to 102,000 positions.

Cotton production in Argentina is concentrated in 11 provinces and according to a 1999 World Bank study 56,6% of the population living in those provinces are under the "poverty line" and 18,2% are under the indigence level. The same study shows that 36,1% of total population in the country live under the "poverty line" and 8,6% live in indigence, showing the higher poverty level of the northern cotton production provinces. Argentina has 24 provinces and the main cotton producing provinces (where 95% of cotton is produced) rank as follows according to the Human Development Index (HDI)[5]: Chaco 23rd; Santiago del Estero 22nd; Formosa 24th; Corrientes 21st; Salta 17th and Catamarca 15th. As a result of historic low cotton prices, poverty indicators have worsened and cotton-producing provinces maintained their HDI ranking.

A recent study done in the context of the National Cotton Program (PROINTAL) by the National Institute of Agricultural Technology (INTA) and the Northeastern National University (UNNE), for Chaco province (where 60-65% of total Argentine cotton is produced), concluded that a $1/ton increase in value added of raw cotton represents $2,095/ton average increase in the Gross Product

[3] PROINTAL, 2001
[4] Agricultural Chain of Cotton study, 2000. INTA EEA Saenz Peña, Chaco.
[5] "Argentine Human Development Report", 1997. Honorable Senate of the Argentine Republic.

for the province. Furthermore, an increase of $1/ton in value added of cotton lint represents an increase of $6,51/ton to Chaco's Gross Product (See annex). This study shows the incidence of the textile industry on the cotton sector and the impact on the Gross Product of the province resulting from reductions in production.

6. Impact on income

From 1999/00 to 2001/02 average raw cotton production was 652,872 tons lower than the 1994/95 to 1998/99 average. Using an average price received by producers of $358/ ton[6] during 1994/95 to 1998/99, annual gross revenue showed a decrease of $225 million ($675 million during the last 3 years).

7. Impact on the value and volume of exports and imports

From 1994 to 1998 annual average exports of cotton lint were 221,727 tons and plummeted to 111,347 tons during the 1999-2001 calendar year, which represents a 50% decline in total exports. Lower cotton lint exports represented a reduction of $500 million for the past three years, considering average cotton lint prices.

On the other hand, textile imports increased by an annual average of $143 million for the 1998-2000 calendar year compared to the 1994-1997 period, an increase of 21%.

ARGENTINE EXPORTS	
	(Thousand Metric Tons)
1998/99	244
1999/00	79
2000/01	90
2001/02	65
2002/03	58

8. Level of added Government expenses as a result of low prices

Argentina does not apply any type of subsidy to production, marketing or trade of its agricultural and livestock products. Food and fiber production is done without government intervention of

[6] For a quality equal to a C-1/2 grade.

any kind that could affect the formation of prices, allowing the free play of supply and demand. Argentina does not provide any kind of financial assistance to the cotton industry.

The profound crisis that cotton producers are facing as a result of low cotton prices, prompted the Government of Argentina to enact in 2001 a one time "Emergency Assistance" of $40 million, which was latter reduced to $35 million because of budget shortfalls. As of today only $7 million have been disbursed.

As a result of record government support to cotton in many countries, Argentine producers have to perform a double adjustment to low prices; first to accommodate its production to the oversupply induced by extreme price supports and other subsidy schemes, and then to compete in world markets with subsidized exports.

A N E X O

LA PRODUCCIÓN ALGODONERA ARGENTINA EN LOS ÚLTIMOS AÑOS.

CUADRO Nº 1

A L G O D Ó N *

SUPERFICIE SEMBRADA Y COSECHADA, RENDIMIENTO Y PRODUCCIÓN

ESTADISTICA RETROSPECTIVA Y ESTIMACIÓN PARA 2001/02- TOTALES DEL PAIS

	SUPERFICIE		RENDIMIENTO	PRODUCCIÓN			RENDIMIENTO	RENDIMIENTO
:AMPAÑA	SEMBRADA	COSECHADA	'OR HECTÁRE/	BRUTO	FIBRA	SEMILLA	)E FIBRA POR H/	DE FIBRA POR
	(EN HECTÁREAS)		(EN KG)	(EN TONELADAS)			KG/HA	TN DE BRUTO
988/89	524.000	501.500	1.235	619.300	194.700	317.950	388	315
989/90	553.000	545.000	1.694	923.000	277.000	492.600	508	300
990/91	639.000	538.500	1.466	789.400	258.000	428.700	479	327
991/92	652.000	580.000	1.232	652.000	208.600	358.600	360	320
992/93	378.000	302.000	1.426	430.600	145.000	237.600	480	337
993/94	504.000	484.000	1.459	706.000	235.000	396.000	486	333
994/95	762.000	680.000	1.655	1.125.100	350.800	591.982	514	312
995/96	1.010.000	969.400	1.390	1.347.400	437.000	715.762	451	324
996/97	955.600	887.140	1.161	1.030.000	338.000	545.904	381	328
997/98	1.133.500	877.900	1.125	987.200	311.000	518.292	354	315
998/99	751.000	639.700	965	617.500	200.000	324.676	313	324
999/00	345.950	332.100	1.257	417.700	134.000	225.000	403	321
000/01*	407.980	384.850	1.300	510.000	165.000	272.000	417	321
001/02#	174.930	170.000	1.300	221.000	73.000	120.000	429	330

LABORACIÓN: LAP/snc. Fuente: E.A.- SAGPYA.(*) Cifras Provisorias

Estimación para superficie y proyeccción para Rendimientos y Producción.

4/03/02

GRÁFICO Nº 1

EVOLUCIÓN DE LA PRODUCCIÓN DE FIBRA DE ALGODÓN

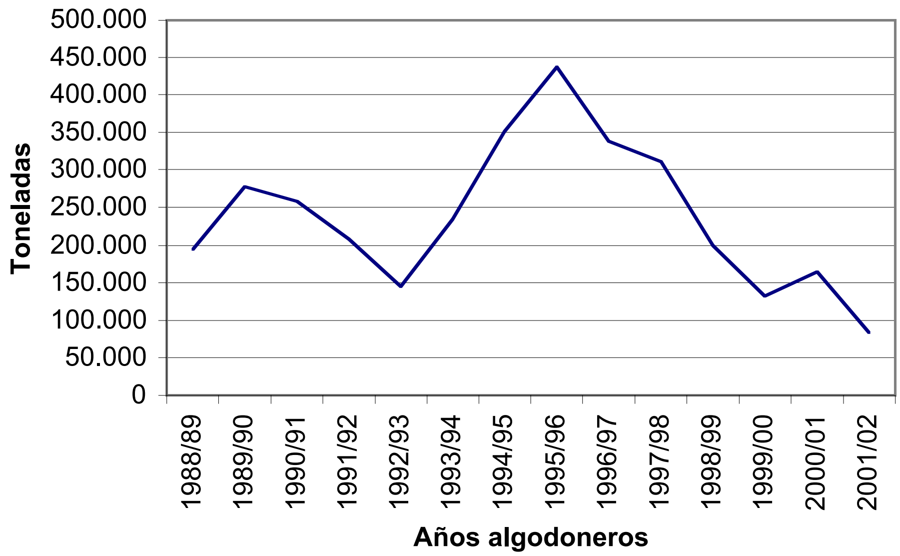


GRÁFICO Nº 2

EVOLUCIÓN SUPERFICIES SEMBRADAS, COSECHADAS Y PRODUCCIÓN ALGODÓN EN BRUTO DESDE 1988/89 AL 2001/02

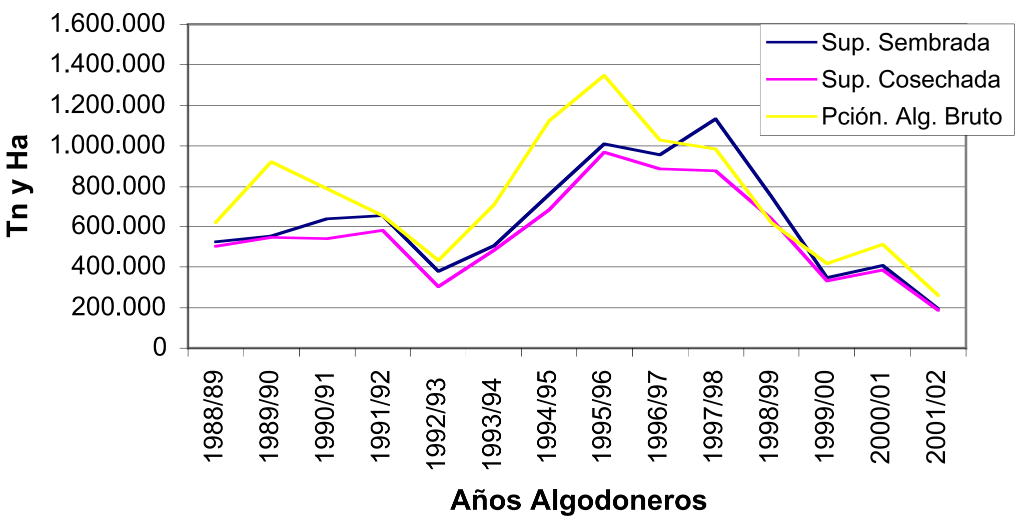
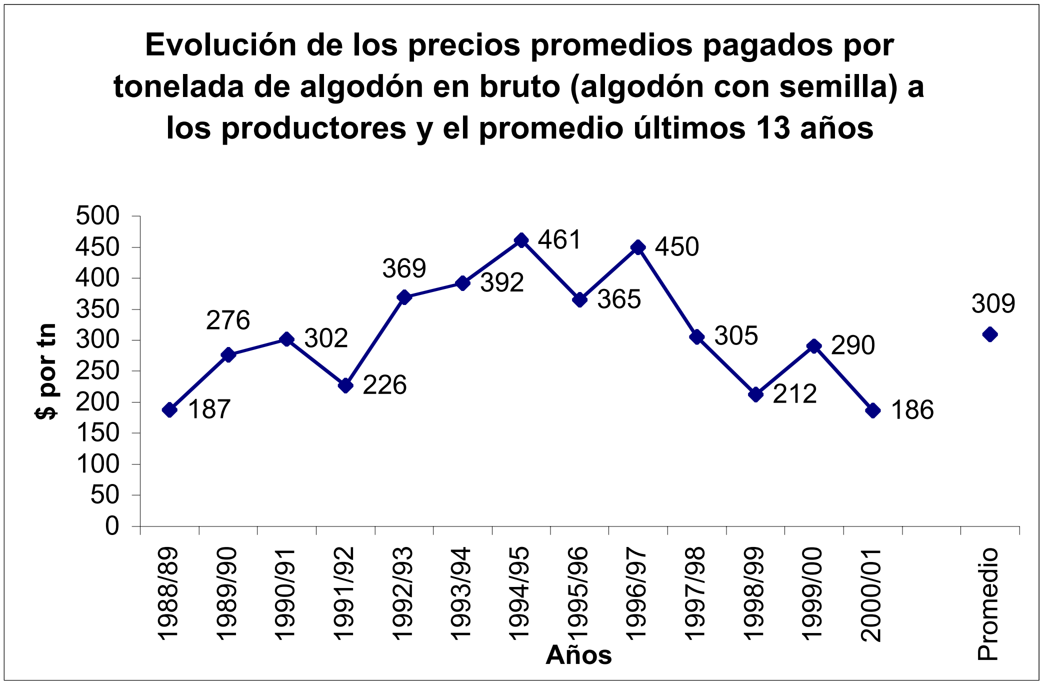


GRÁFICO Nº 3



CUADRO Nº 2

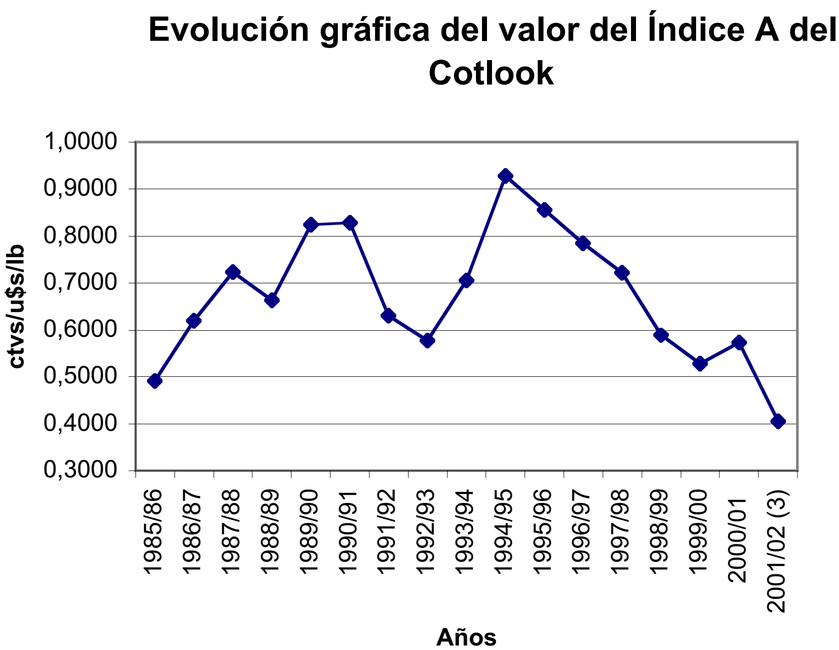
Evolución de las Cotizaciones del Índice "A" del Cotlook

Años algodoneros (del 1º/8 al 31/7)	**Promedio Índice "A"(1)**
1985/86	0,4900
1986/87	0,6205
1987/88	0,7230
1988/89	0,6635
1989/90	0,8240
1990/91	0,8290
1991/92	0,6305
1992/93	*0,5770*
1993/94	0,7060
1994/95	0,9275
1995/96	0,8560
1996/97	0,7855
1997/98	0,7220
1998/99	*0,5890*
1999/00	*0,5280*
2000/01	*0,5720*
2001/02	*0,4125(3)*

PROMEDIO ÚLTIMOS 17 AÑOS	**0,6739 (3)**

(1) En u$s por libra. Fuente: Cotton Outlook. (3) Al 14/03/02

GRÁFICO Nº 4



(3) Promedio al 14/03/02.

GRÁFICO Nº 5

Evolución de las exportaciones de fibra de algodón argentina

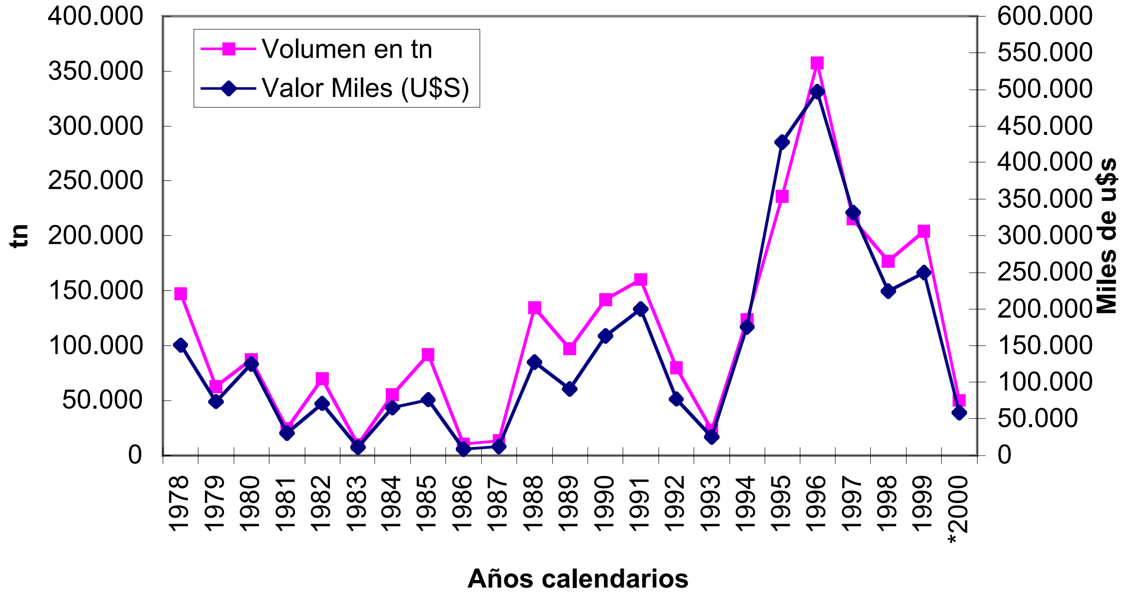
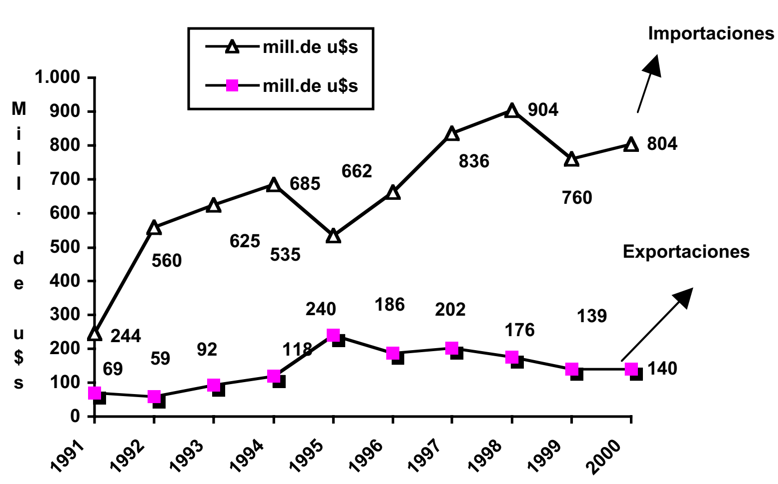


GRÁFICO Nº 6

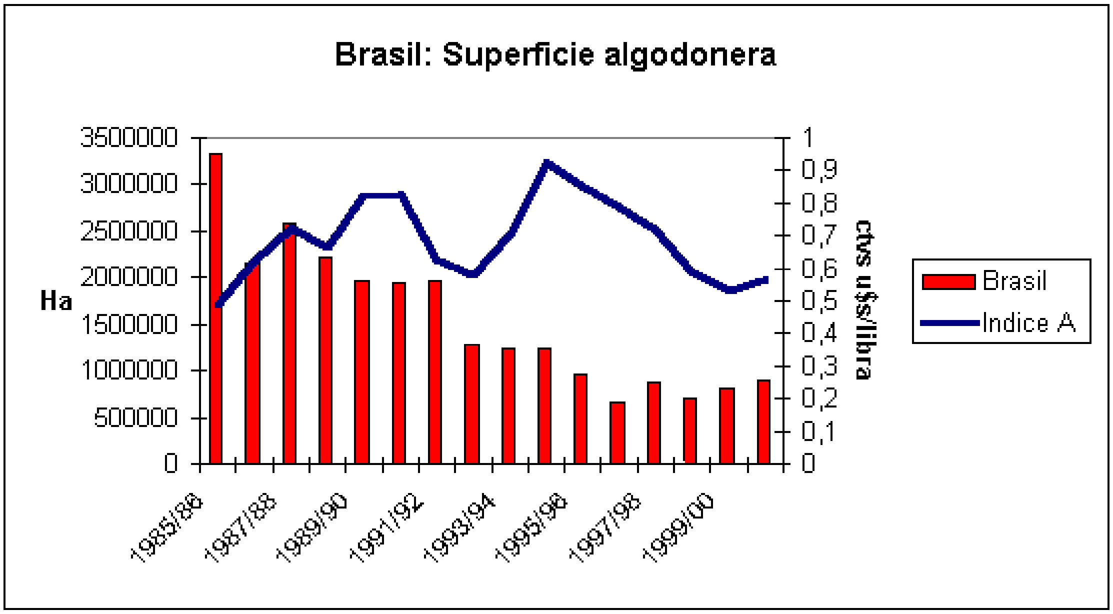
Evolución valor importaciones y exportaciones "de todo tipo tejidos, prendas textiles y confecciones"*

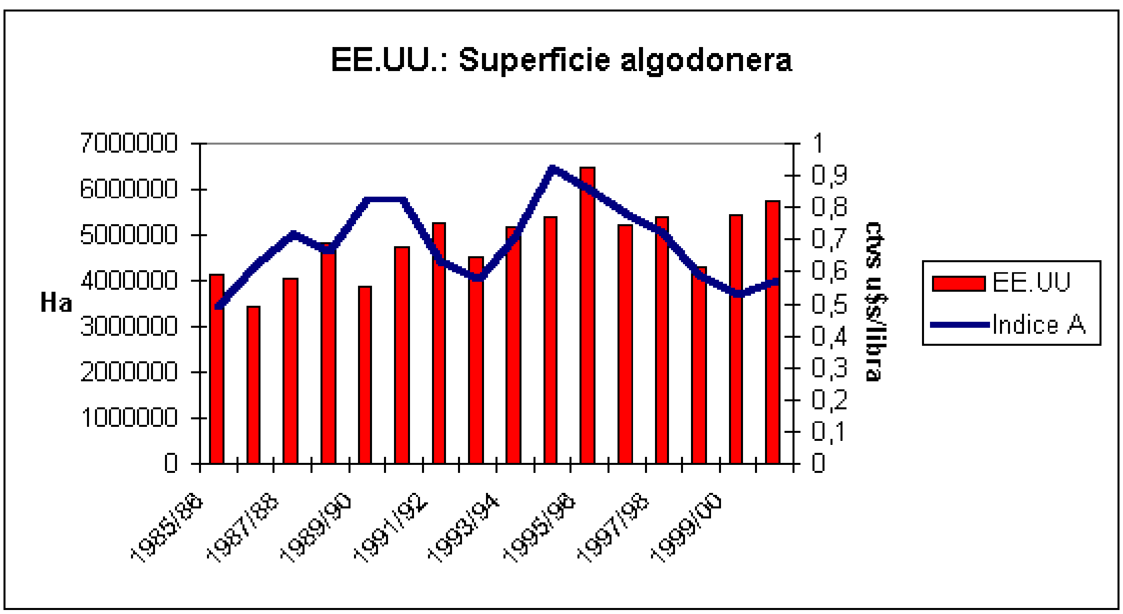


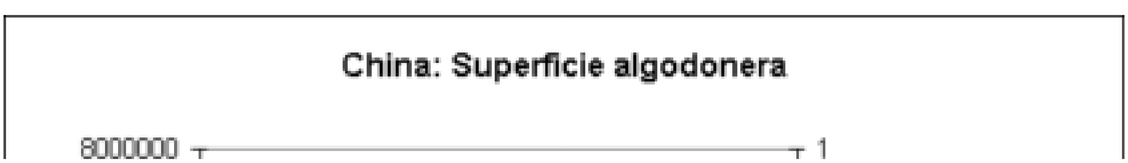
*Corresponden a años calendarios.-
FUENTE: FITA.-

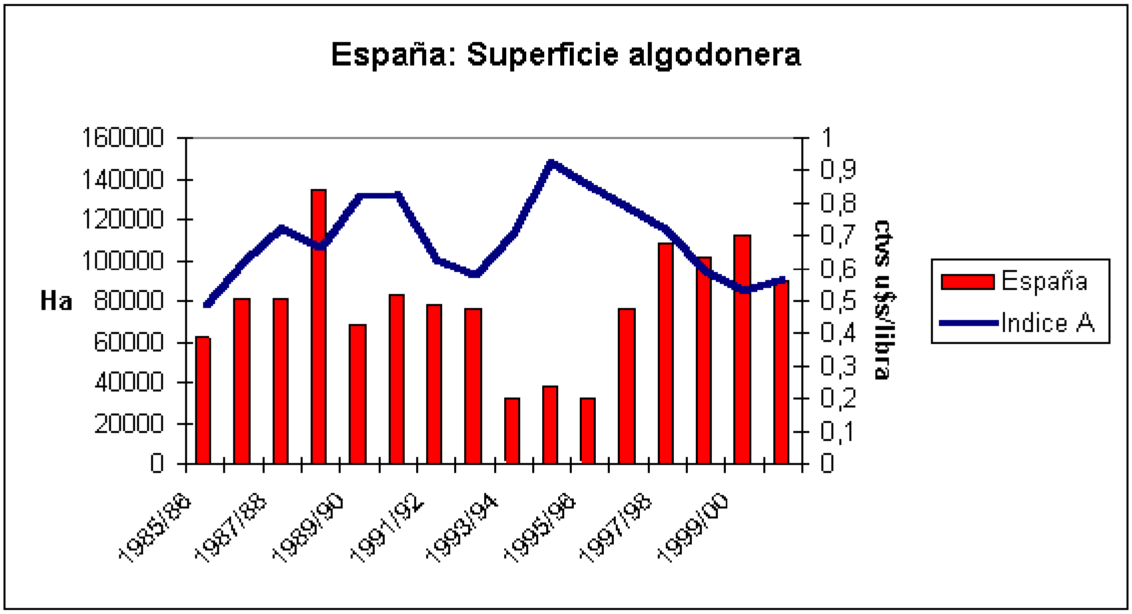
EVOLUCIÓN DE LA SUPERFICIE SEMBRADA Y DEL ÍNDICE “A” DEL COTLOOK

PAÍSES CON APOYOS GUBERNAMENTALES








España: Superficie algodonera
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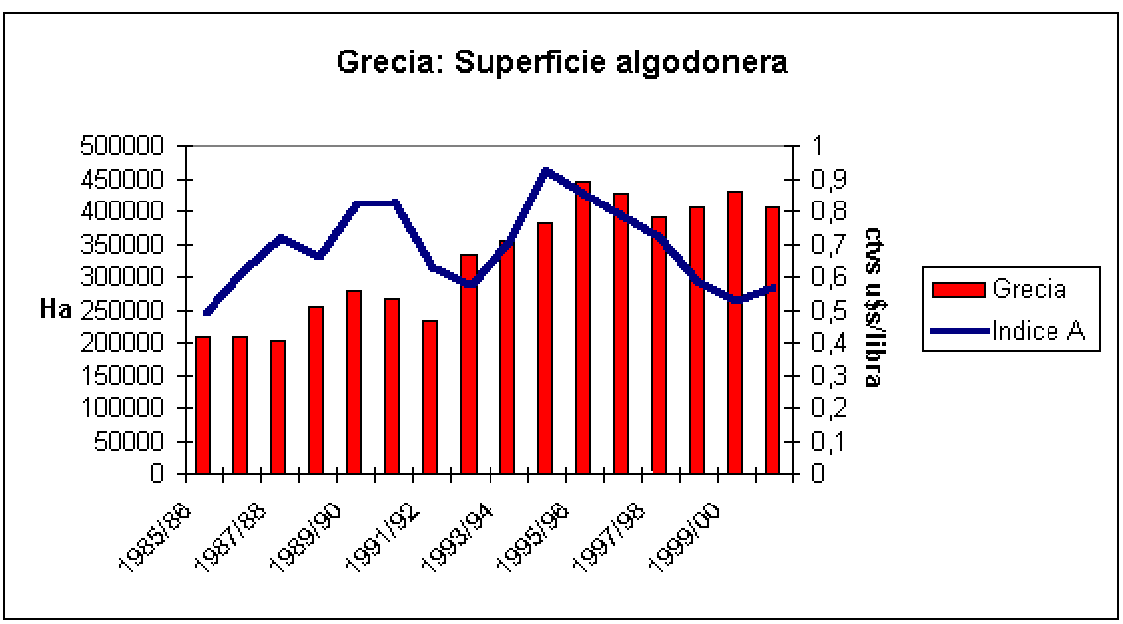
Indice A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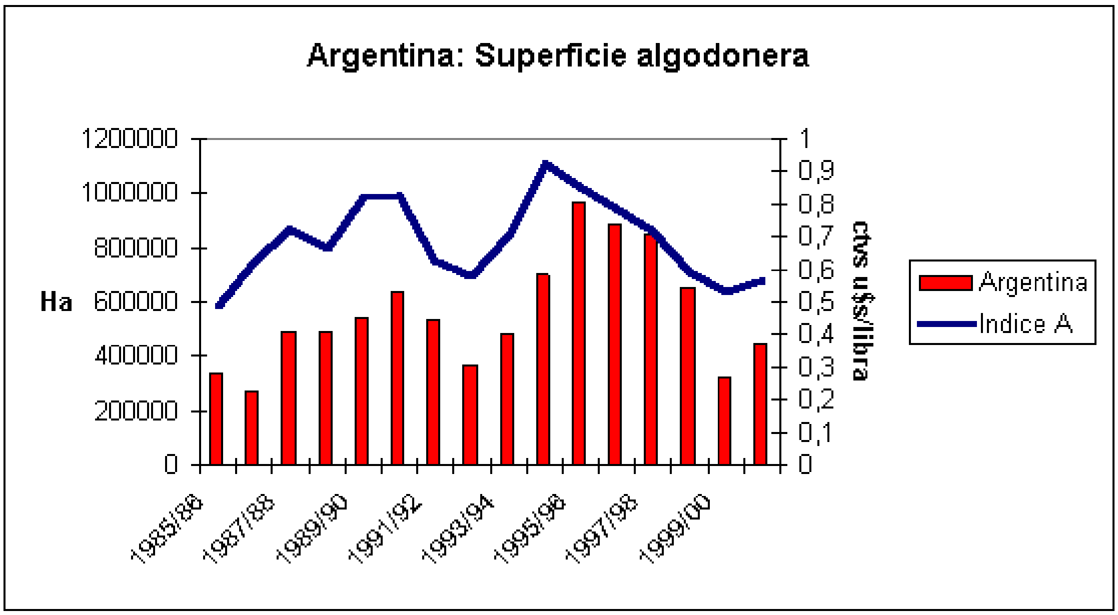
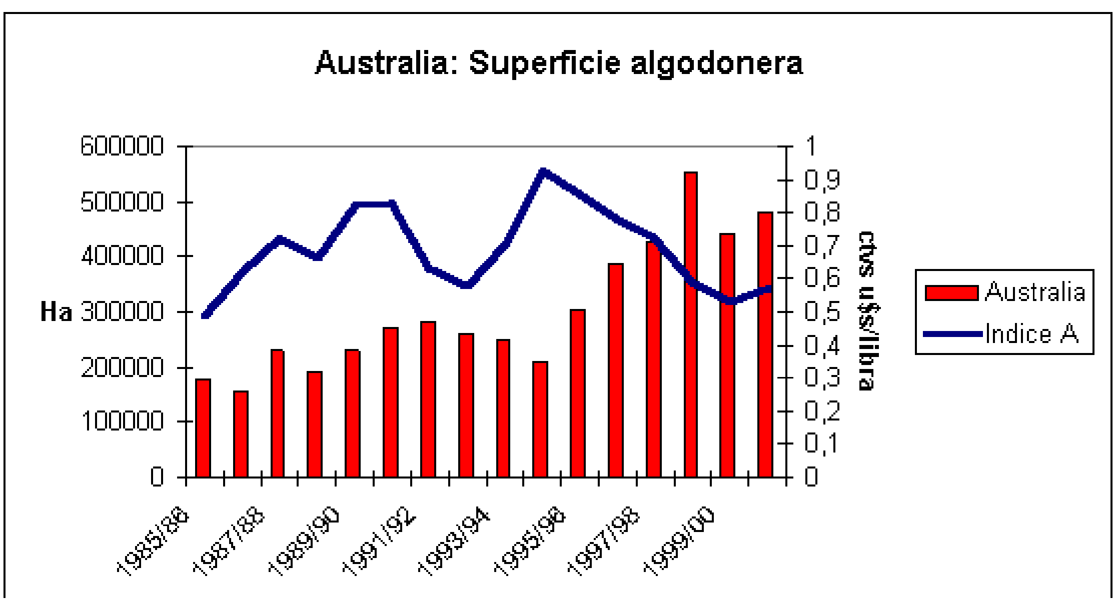
Indice A

PAÍSES SIN APOYOS GUBERNAMENTALES





FUENTE DE LOS ÚLTIMOS 6 GRÁFICOS: CCIA.

El impacto del valor agregado del algodón sin desmotar y de la fibra en el Producto Bruto Geográfico (PBG) del Chaco*

Para el análisis del impacto del valor agregado de la actividad algodonera en el PBG chaqueño, hemos considerado la incidencia, primero del algodón en bruto y luego de la fibra, obteniéndose los siguientes resultados para el caso del **valor agregado del algodón** sin desmote:

$$\mathbf{Y = 100691 + 2{,}095\ X + e}$$

$$\mathbf{r^2} = 0{,}65$$

(*) Extraído del trabajo "PROINTAL" elaborado por el INTA y la UNNE.

$$\text{elasticidad} = 0{,}16$$

donde: Y = PBG

X = Valor agregado del algodón sin desmotar

e = término de error

Siendo su *tasa de cambio* igual a:

$$dy/dx = b = 2{,}095$$

Esto es, que **por cada incremento de $1 en el Valor Agregado del algodón sin desmote, el PBG del Chaco se incrementa *en promedio* en $ 2,095.**

Respecto al cálculo de la ***elasticidad,*** dio un resultado bajo e igual a **0,16**, lo que está indicando la existencia de una inelasticidad entre ambas variables.-

El diagrama de dispersión se observa en el Gráfico Nº10.-+

En relación al impacto **del valor agregado de la fibra de algodón** en el PBG del Chaco, la recta de regresión presenta los siguientes valores:

$$\mathbf{Y = 96315 + 6{,}51\ X + e}$$

$$\mathbf{r^2} = 0{,}515$$

$$\text{elasticidad} = 0{,}17$$

donde: Y = PBG

e = término de error

Siendo su *tasa de cambio* igual a:

$$dy/dx = b = 6{,}51$$

Esto es, que **por cada incremento de $1 en el Valor Agregado de la fibra de algodón, el PBG del Chaco se incrementa *en promedio* en $ 6,51.**

Respecto al cálculo de la ***elasticidad,*** dio un resultado bajo e igual a **0,17**, lo que está indicando la existencia de una inelasticidad entre ambas variables.-

En un trabajo anterior (5), se observaron valores estimados superiores, sin embargo las participaciones son mayores en el presente análisis.

6. CONCLUSIONES

Después de verificado el modelo propuesto, según las pruebas de hipótesis correspondientes, oportunamente indicadas, se infieren las siguientes conclusiones:

Variable	Participación en el PBG	r^2	Elasticidad	Tasa de Cambio
CHACO				
Algodón s/ desmote	**8,11**	**0,65**	**0,16**	**2,095**
Fibra	**3,18**	**0,515**	**0,17**	**6,51**

(5) Besil,Cantini, Gelman, Bonilla, Cerno "*Significación de la producción algodonera en el PBG del Chaco*"INDICADORES ECONÓMICOS – Revista del Departamento de Economía – Facultad de Ciencias Económicas – UNNE – Año 6 – Ejemplar 32 - Noviembre de 1997

a) De los valores de r^2 , medida de la *bondad de ajuste,* surge que las variaciones del valor agregado del algodón, ya sea en bruto como en fibra para la provincia del Chaco pueden explicar en un 60%, aproximadamente, las variaciones del PBG. Todos los valores de las *elasticidades* resultaron menores que uno, es decir, inelásticos, esto es que ante incrementos del 1% en el valor agregado del algodón sin desmote y de la fibra..
b) El modelo de regresión lineal propuesto, ha dejado de lado un número importante de variables que deberían tenerse en cuenta para explicar con mayor precisión el comportamiento del PBG de la provincia analizada. Sin embargo, las variables empleadas "valor agregado del algodón sin desmote" y "fibra" como se puede apreciar a través de los r^2 para la provincia del Chaco, explica de manera bastante significativa las variaciones del PBG.

c) Como se ha indicado al comienzo del trabajo, el análisis se ha centrado en el PBG del Chaco, ya que representan más del 60/65% de la producción nacional.

d) De acuerdo a los datos disponibles del Valor Agregado por actividad, para el Chaco se utilizó el algodón en bruto y la fibra, dejando de lado las aceiterías y otras manufacturas industriales.

e) Es necesario destacar que siendo superior la participación relativa del valor agregado del algodón sin desmote respecto a la del valor agregado de la fibra, la tasa de cambio es 3 veces superior la de ésta última, lo que está indicando el fuerte efecto multiplicador que poseen las actividades manufactureras en comparación con los productos sin elaborar.

f) El punto h) corrobora los efectos negativos de la no industrialización in situ del algodón, en la principal provincia productora de materia prima.(6)

g) Las principales incidencias negativas son:

- Menores fuentes de trabajo. Este problema no radica sólo en el número sino en la radical diferencia que existe entre una ocupación rural inestable, de duración limitada en el tiempo, con posibilidades de un trabajo efectivo , duradero y con niveles salariales significativamente más altos, habida cuenta de otras posibilidades que proporciona el medio urbano para mejorar la calidad de vida de la población.
- Hay una inmensa masa de dinero que se mueve en los sectores del comercio y financiero y que no se observan en el ámbito provincial y, por ende, en el efecto multiplicador del gasto, al no producirse la industrialización en el lugar de la producción de la materia prima.
- Se observa una pérdida de potencialidades de los recursos financieros del Estado Provincial, cada vez más dependiente de los ingresos coparticipados y de ayudas federales.

h) Por último, se destaca el fuerte descenso de las exportaciones de algodón, en el Chaco, tanto en términos absolutos como relativos.-

El siguiente cuadro muestra el total de exportaciones de fibra en millones de dólares y la participación de este producto en el total exportado por la provincia, observándose que los datos son coincidentes con lo acontecido en la producción, según el análisis realizado.(7)

años	Fibra de algodón	Participación en %
1995	271,3	69,7
1996	307,0	71,9

1997	200,9	62,5
1998	117,9	55,1
1999	106,7	52,5

Fuente: CFI – Permisos de Embarque.-

RESUMEN

El objetivo del presente trabajo está era analizar la incidencia en el Producto Bruto Geográfico de la actividad algodonera en su conjunto, en toda la zona productora .

Al encontrarnos con una escasez muy notoria de información, centramos el estudio en la provincia del Chaco, que representa más del 60/65% de la producción.

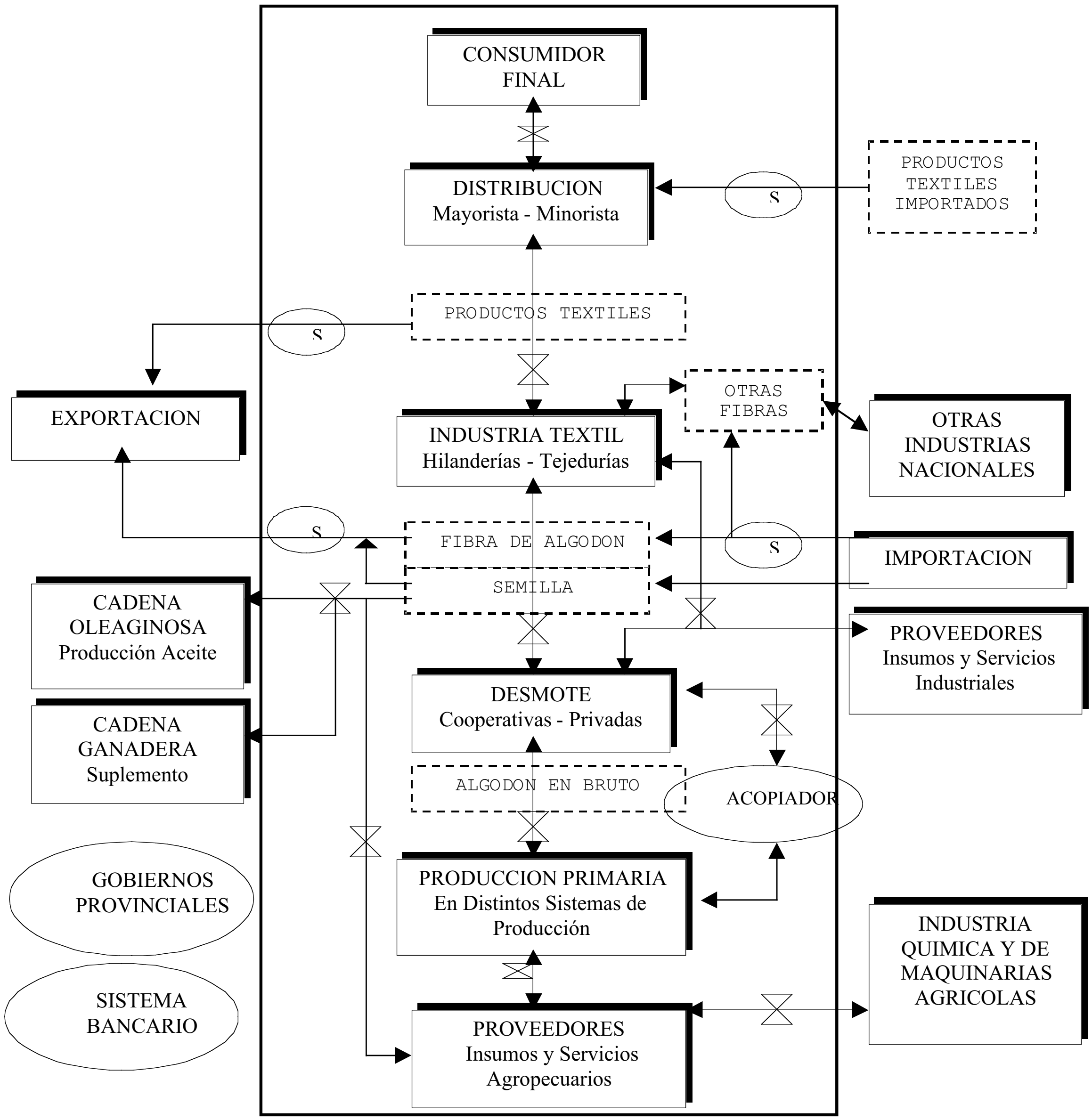
Más aún, para el Chaco, incorporamos la información del valor agregado de fibra y para una serie que abarca toda la década pasada, no considerando las aceiterías y otras manufacturas industriales.

(6) Gelman, Besil: *"Incidencia en el PBG de la no industrialización "in situ" de las materias primas. El caso del algodón en el Chaco* – Departamento de Economía – Fac. de Cs. Econ-omicas – UNNE - 1975

(7) Para un análisis más completo de las exportaciones, ver : Carrió, Torrente: *"Atlas Económico Social del NEA" (Versión Preliminar)* – INDICADORES ECONÓMICOS – Revista del Departamento de Economía – Facultad de Ciencias Económicas – UNNE – Año 9 – Ejemplar 42 - Diciembre del 2000.

Estructura básica de la cadena agroindustrial algodón. Principales componentes,

productos e interrelaciones.[8]



Identifica componente y/o sector de la cadena

Identifica producción física

S Identifica agente de comercio, importadores-exportadores, intermediarios

Identifica transacción de tipo comercial (en el diagrama sólo algunas).

Identifica flujo de producto físico y/o monetario.

22 de marzo de 2002. –
LAP/DP