



Trade, employment and gender: evidence from Senegal

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Outline

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Objective

Assess the effects of trade on the employment, focusing on gender

Context and issues

- Implementation of a National Strategy for Development and Export Promotion (STRADEX) since 2001 with the aim to make an optimal use of its potential and take into account international demand.
- An "Integrated Framework for Trade Development in Senegal" has been developed in March 2007, based on this strategy.
- Through this Integrated Framework (IF), Senegal is trying to implement a strategy for export promotion. Main objective of the IF is to set trade as an engine for growth.

Context and issue

- Policy makers are also trying to improve the efficiency of markets through an adequate institutional and legal framework and regulations and effective monitoring mechanisms: implementation of the Procurement Regulatory Agency (MRA) in 2002 and similarly, a sustaining program and trade capacity building (PRDCC) was launched in 2004.
- Trade and integration are also considered as pillar of Senegalese accelerated growth strategy and a component of "wealth creation" in the PRSP. The development of trade is expected to support growth and consequently generate jobs. So, will export growth boost labor, in particular to female labor?

Trade and employment trends

- Volatility in economic growth since 2000 despite significant increase in investment mainly sustained by external saving as shown by the trend of the current account balance

Table 1: Trend of some macroeconomic indicators, 2001-2008

	2001	2002	2003	2004	2005	2006	2007	2008
Constant GDP growth (%)	4.6	0.7	6.7	5.8	5.3	2.3	4.7	2.5
GDP Share (%)								
Primary sector	16.3	13.6	15.1	13.7	14.6	13.0	11.8	13.0
Agriculture	9.3	6.8	8.3	7.2	8.1	6.6	5.2	6.7
Secondary sector	21.7	22.3	21.4	21.7	20.5	20.1	20.3	21.1
Tertiary sector	43.8	44.9	44.7	45.8	45.4	46.6	47.4	46.3
Public administration	18.2	19.1	18.8	18.8	19.4	20.4	20.6	19.6
Investment, savings and consumption (% of GDP)								
Investment rate	18.4	17.2	22.3	21.6	24.5	24.8	26.4	27.6
Domestic saving rate	9.4	6.8	10.2	9.0	9.1	7.4	6.4	7.4
Public	3.1	6.0	5.8	6.4	6.4	3.7	4.9	4.0
Private	6.3	0.8	4.4	2.6	2.7	3.7	1.5	3.4
Gross national saving rate	13.4	11.2	15.9	15.2	16.7	15.6	17.2	17.6
Final consumption	90.6	93.2	89.8	91.0	90.9	92.6	93.6	92.6
Public finances								
Rate of fiscal pressure	16.1	16.9	17.1	17.4	18.5	18.8	19.3	18.3
External exchanges (% of GDP)								
Exports	28.7	28.5	26.6	27.1	27.0	25.6	23.2	28.4
Imports	37.8	39.0	38.7	39.8	42.4	43.1	43.2	48.5
Current Balance	-5.04	-6.03	-6.40	-6.39	-7.78	-9.21	-11.63	-14.18

Trade and employment trends

Growth drivers?

- On the supply side: services
- On the demand side: Investment and consumption

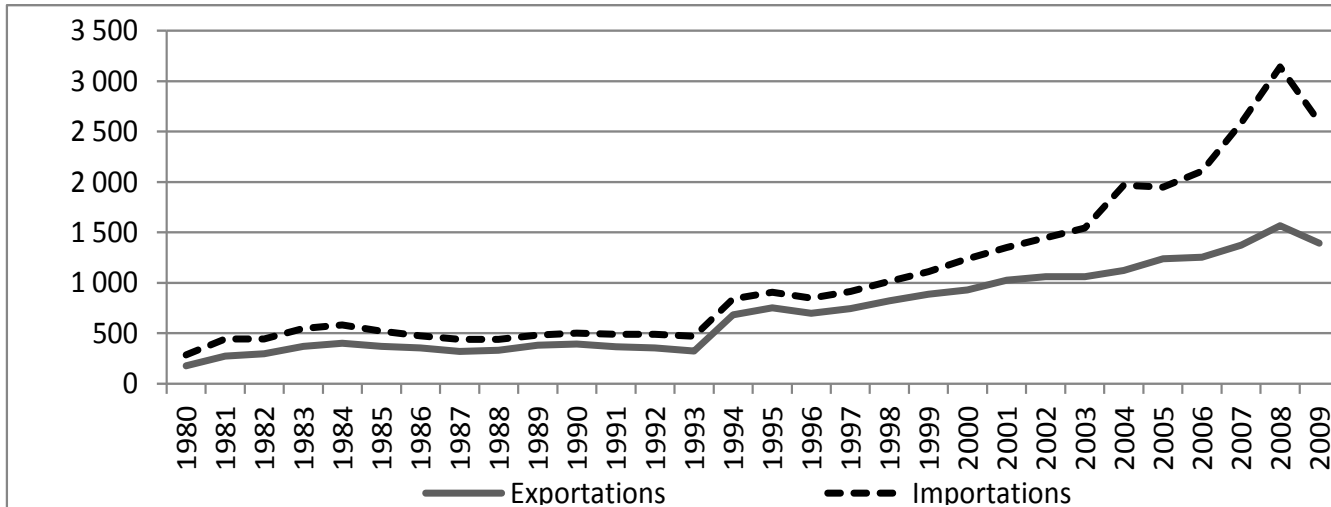
Table 2: Trend of the GDP by major categories and affectation, 1990-2008

Sectoral GDP growth	1990-2000	2001-2008
Agriculture	1.8%	1.1%
Industry	3.7%	4.7%
Services	3.1%	5.7%
GDP growth (demand side)		
Intermediate consumption	3.2%	4.6%
Final consumption	2.3%	4.7%
Public	1.0%	4.3%
Private	2.5%	4.8%
Gross Fixed Capital Formation	4.9%	6.8%
Public	5.3%	9.8%
Private	5.5%	6.0%
Exports of goods and services	3.1%	2.7%

Trade and employment trends

...more trade since 1994 with imports growing faster than exports

Figure 1: Evolution of total exports and imports in billions of CFA francs, 1980-2009



Trade and employment trends

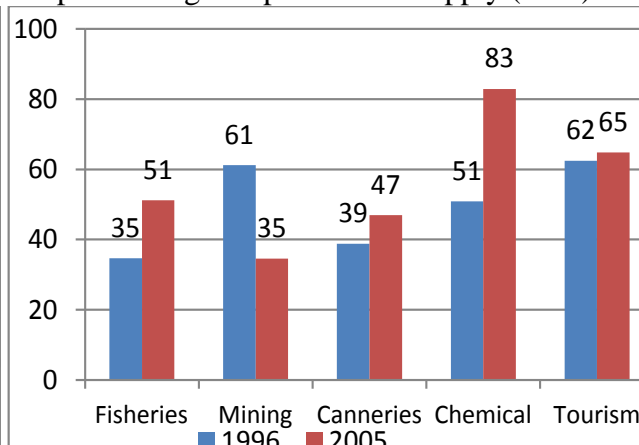
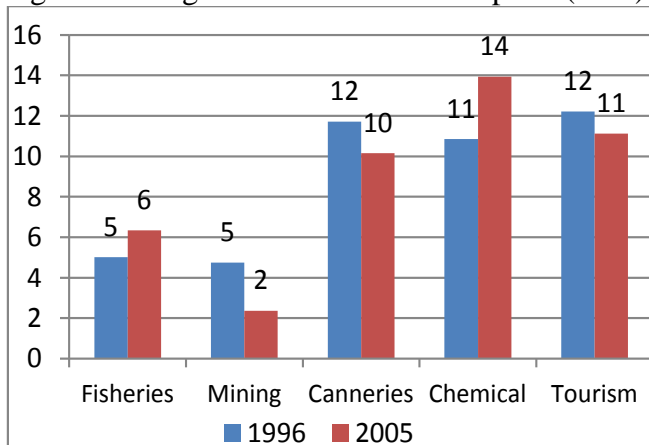
Drivers of exports

- Which markets? Africa and EU
- Which products? Fishing, mining, canneries, refined petrol, chemicals and tourism

Table 3: Mayor customers of Senegal (en %), 2001-2009

	2001	2002	2003	2004	2005	2006	2007	2008	2009
EU	42,3	34,2	32,1	29,8	24,9	28,81	30,30	16,31	28,21
Africa	28,6	32,3	37,5	39,4	43,1	43,84	51,75	48,84	45,31
America	0,7	0,5	0,9	0,5	1,5	1,02	1,66	1,19	0,44
Asia	13,5	22,3	15,2	17,5	16,6	10,45	10,37	16,36	12,66
Others	14,9	10,7	14,3	12,8	13,9	15,89	5,93	17,29	13,37
Total	100	100	100	100	100	100	100	100	100

Figure 2: Weight of sectors in total exports (in %) Graph 2: Weight exports in the supply (in %)



Trade and employment trends

- Poor growth performance of exports oriented sectors...

Figure 3: Growth contribution of exports oriented sectors (en %), 2000-2008

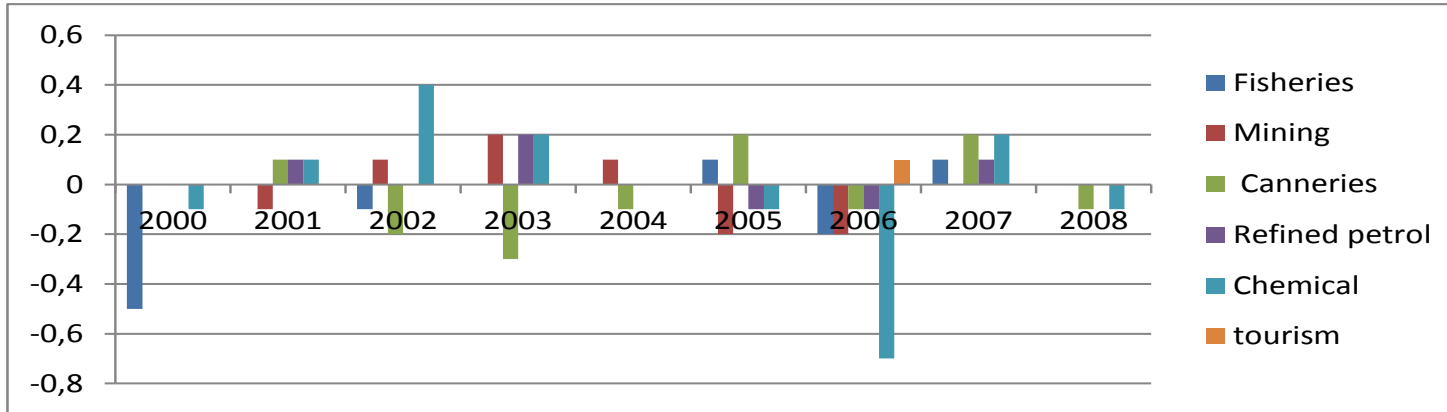


Table 3: Total population of workers

Année	Fisheries	Mining	Canneries	Refined petrol	chemical	tourism	Total
2 001	71 118	31 962	16 935	670	8 026	24 247	3 124 846
2 002	78 398	32 038	13 705	1 215	5 679	24 589	3 232 103
2 003	76 065	33 177	13 973	1 135	5 688	23 877	3 413 587
2 004	77 663	33 886	14 429	1 192	5 931	24 607	3 425 948
2 005	78 026	32 109	14 875	221	5 854	24 838	3 519 279

Source : Input-output table from 2000 to 2005 (République du Sénégal, 2000-2005).

Trade and employment trends

Which sectors are gender sensitive?

- Canneries and tourism...

Table 4: Changes in the ratio of male-female workers employed in the main exports sectors, 1998-2009

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Mining	19	42	28	22	21	31	24	17	11	19	29	33
Tourism	6	5	5	5	5	4	4	4	4	3	3	3
Refined perolum	11	6	6	6	5	6	6	6	5	5	5	5
Chemical	14	13	22	17	18	12	14	20	19	18	14	16
Canneries	2	2	2	1	2	2	2	2	3	3	5	4
Fisheries	6	4	20	16	40	16	33	17	15	16	38	36

Source: CUCI from 1998-2010 (République du Sénégal, 1998-2010)

Empirical analysis

Model

- Computable general equilibrium model of PEP (Decaluwé et al., 2009) based on 2005 Senegalese SAM: 12 sectors with focus on sectors diving exports and 5 factors (female labor, male labor, private capital, public capital, land).
- SAM Data : share of export sectors in labor and structure of their VA

Tableau 4: Relative weight of sectors in labor demand (en %)

	Agriculture	Fisheries	Mining	Canneries	Other food industries	Leather	Chemical	Petroleum	Other industries	Tourism	Other tradable services	Non tradable services	Total
LD	21,98	3,80	1,09	0,71	3,61	0,04	1,77	0,27	9,13	1,65	29,47	26,47	100
KD	9,85	1,38	1,15	4,15	4,46	0,3	2,10	0,42	15,92	0,59	50,06	9,63	100

Source : SAM

Tableau 5: structure of the value added (en %)

	Agriculture	Fisheries	Mining	Canneries	Other food industries	Leather	Chemical	Petroleum	Other industries	Tourism	Other Tradable services	Non Tradable services
Labour	47,70	57,36	31,58	7,64	28,26	6,09	29,12	24,13	21,82	57,63	22,28	57,24
Capital	43,91	42,64	68,42	92,36	71,74	93,9	70,88	75,87	78,18	42,37	77,72	42,76
Land	8,40											
Total	100	100	100	100	100	100	100	100	100	100	100	100

Source: SAM

Empirical analysis

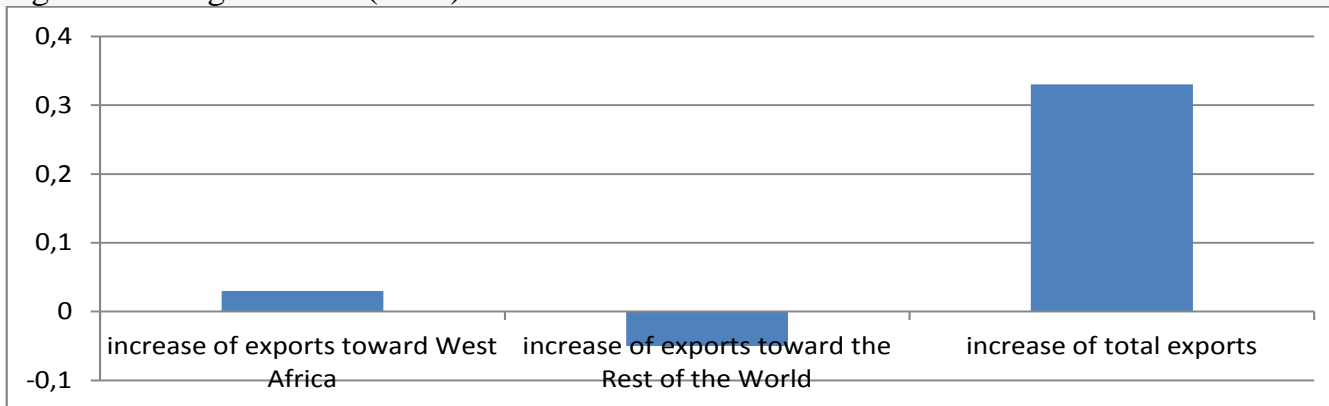
Simulations

- 10% increase of total exports
- 10% increase of exports traditionally oriented toward West Africa
- 10% increase of exports traditionally oriented toward the Rest of the World (out of West Africa)

Results

- Small response of economic activity

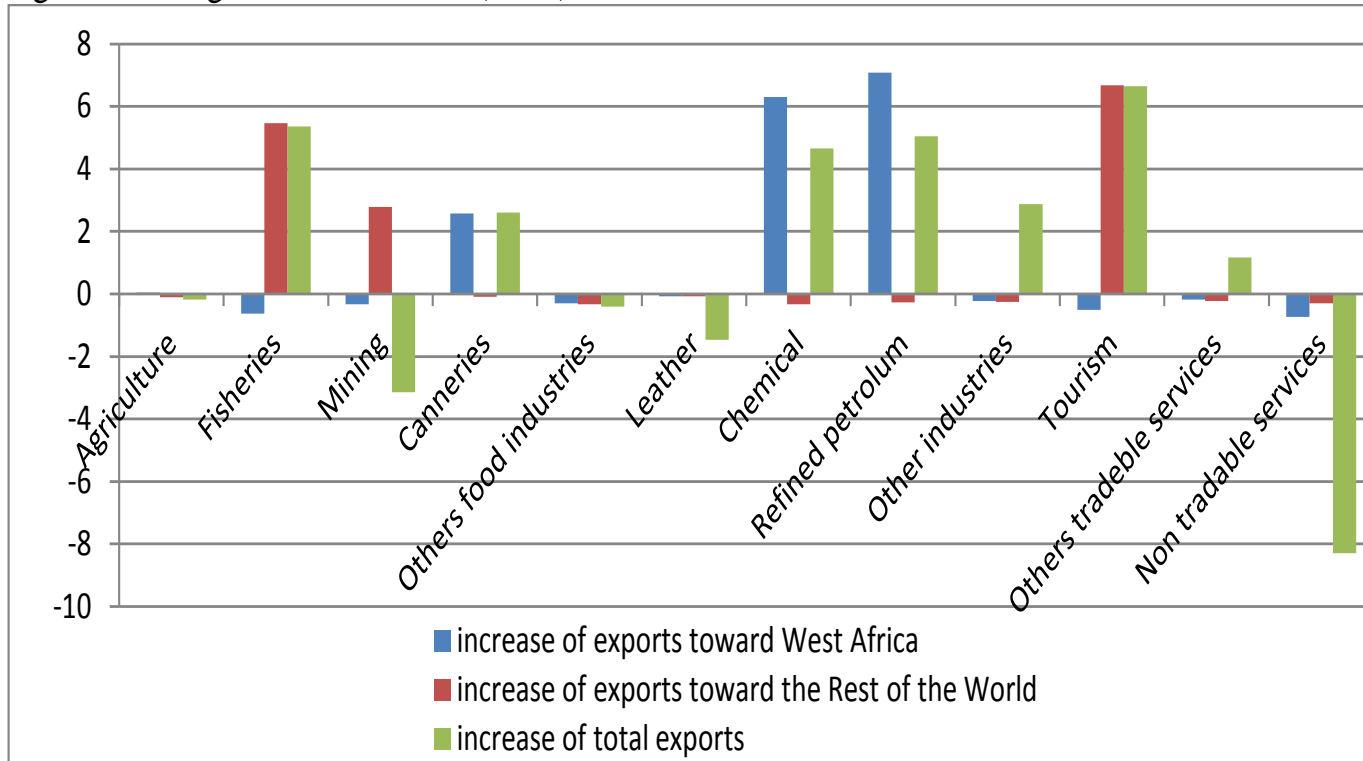
Figure 4: change in GDP (en %)



Empirical analysis

- Value added of canneries, chemical and oil industries that are export-oriented toward West African market increases when sales to this market rise
- ...while value added of tourism, fisheries and extractive industries increase when exports to the rest of the world (excluding West Africa) rise.
- ...except for mining, value added of all export-oriented sectors grow when total exports increase marginally.

Figure 5: changes in value added (en %)



Empirical analysis

- Marginal increase in exports leads to relatively larger increase in female labor demand compare to male labor
- The increase in exports oriented toward West Africa has a more strong effect on labor market and, in particular, female labor
- Increased sales on the world market, out of West Africa, has quite no effect on the structure of labor market.

Figure 6: changes in labor demand (en %)

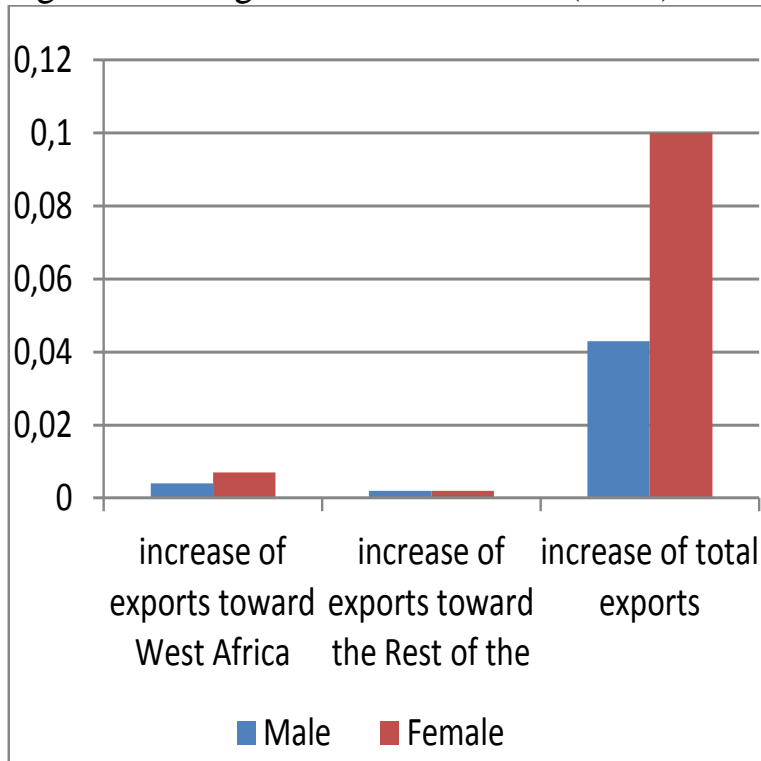
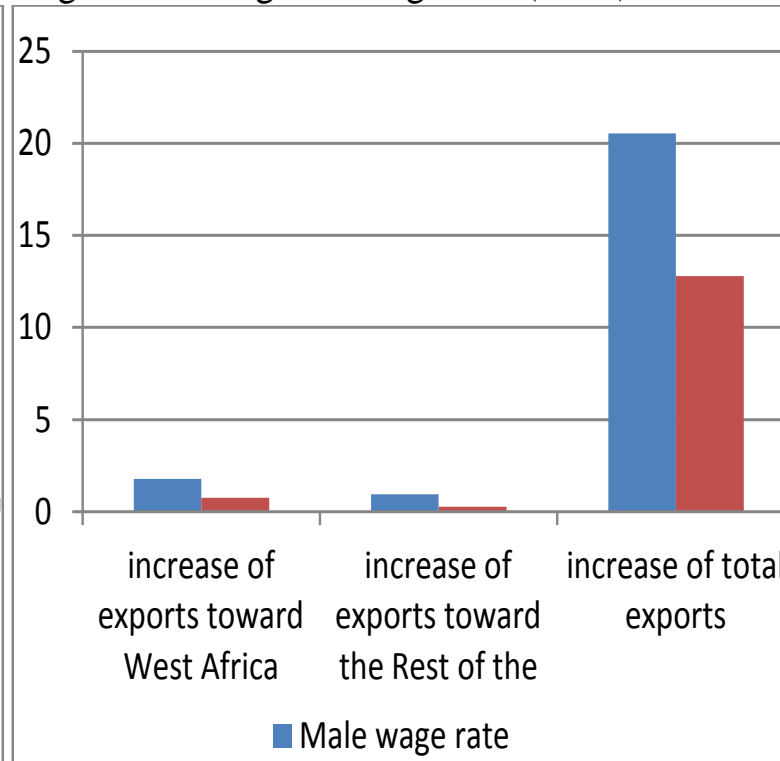


Figure 7: changes in wage rate (en %)



Conclusions

- Fishing and tourism industries are export oriented sectors that are relatively more sensitive to gender issues.
- Results show that a marginal increase in exports does not lead to a robust supply response. Therefore, the impact on labor demand is relatively moderate.
- Given the structure and factor intensity of sectors oriented toward the world market, export growth has a moderate impact on the labor demand in Senegal. However, it benefit more to women that to men.
- Sales toward the West African market drive more the activity and has relatively more effect on labor market, and in particularly on female labor market.