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THE PRICE EFFECT OF TARIFF LIBERALIZATION
IN MOROCCO: MEASURING THE IMPACT
ON HOUSEHOLD WELFARE

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and Abdelaziz Nihou

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Abstract

This study analyses the distributive effects of tariff liberalization in Morocco. The results indicate that the impact on the household both as income earners and as consumers varies depending on whether the household is urban or rural. The pass-through is positive and significant but is smaller than expected. It stands at 13% for agricultural goods and at 16% percent for manufactured goods. The results show that liberalization has reduced the consumer prices of both the agricultural and manufactured goods and led to an increase of wages. The reduction in the prices of the goods meant an amelioration of household welfare however households that were net suppliers of agricultural goods saw their revenue decline. The overall effect of the reduction in tariffs is positive and leads to an increase in aggregate household income at 2.7%. This is due primarily to an increase in spending of 2.8% and of wages for 0.8%. The losses due to the reduction in the price of agricultural products are estimated at 0.9%.

ملخص

تقوم هذه الدراسة بتحليل الآثار التوزيعية لتحرير التعريفات الجمركية في المغرب. وتشير النتائج إلى أن تأثير ذلك على الأسرة وذوي الدخل كمستهلكين، على حد سواء، يختلف اعتمادا على ما إذا كانت العائلة في المناطق الحضرية أو الريفية. التميرري ايجابية وهامة لكنها أصغر مما كان متوقعا. انها تقف عند 13 ٪ بالنسبة للسلع الزراعية في المنة و 16 ٪ على السلع المصنعة. وأظهرت النتائج أن تحرير التعريفات الجمركية ادت الى خفض أسعار المستهلك من السلع الزراعية والمصنعة على حد سواء، وأدت إلى زيادة الأجور. انخفاض أسعار السلع يعني تحسين الرعاية المنزلية ولكن الأسر التي كانت غير موردة للسلع الزراعية شهدت انخفاض في إيراداتها. التأثير الكلي للانخفاض في الرسوم الجمركية إيجابي ويؤدي إلى زيادة في إجمالي دخل الأسرة بنسبة 2.7 ٪. هذا يرجع أساسا إلى زيادة في الإنفاق بنسبة 2.8 ٪ والأجور عن 0.8 ٪. وتقدر الخسائر الناجمة عن الانخفاض في أسعار المنتجات الزراعية على 0.9 ٪.

1. Introduction

The study aims at analyzing the impact of trade policies on Moroccan households as consumers of goods and as income earners. This impact which goes through the impact of trade policies on goods prices and factor prices depends on a set of household characteristics. The observable heterogeneity in consumption behavior and income sources in different regions and especially in rural and urban is expected to lead to a different impact.

A number of studies have examined the impact of trade policy on welfare in Morocco. Most of them used CGE models to simulate tariff reductions and conclude that trade liberalization lead to aggregate welfare gains but that the urban and rural populations are affected differently. The rural poor are found in some studies to be worse off after a reduction of protection. Lofgren Hans (1999) analyzed trade reform and the poor in Morocco with a rural urban general equilibrium model. The CGE model is used to analyze the short run effect of alternative scenarios for reduced protection for agriculture and industry. The simulation results indicate that the reduced agricultural protection leads to significant aggregate welfare gains but that the rural poor face strong losses while the impact of the reduction of protection in the industrial sector is small. Ravaillon and Lokshin (2004) analyzed the gainers and losers from trade reform in Morocco. They studied the household welfare impacts of the relative price changes induced by specific trade policy reform scenarios for cereals in Morocco. They found small impacts on mean consumption and inequality in the aggregate. There are both gainers and losers and but the rural poor are worse off on average after trade policy reforms.

Some studies concentrate on a specific trade agreement simulating the impact of tariff reductions planned for in the free trade agreement signed by Morocco with Europe or with the USA using CGE models. They find that both the EC association agreement and the US free trade agreement leads to a reduction of poverty of households and corresponding gains but that the gains are relatively small. Touhami (2006) analyses the simulated effects of a tariff reduction as outlined in the Morocco-European Union (EU) trade agreement. The results indicate that poverty declines as a result of this trade liberalization. However, the impacts are weak given that tariffs are only partially reduced between 1998 and 2005 in the context of this agreement. Reductions are much greater for industrial goods than for agricultural goods. A microeconomic analysis reveals that, nationally, two-thirds of households post welfare gains. This proportion rises to three-quarters in rural Morocco. The absolute gains and losses are larger among the richest households but, in relative terms, they are distributed fairly uniformly. Rutherford Thomas F., E.E. Rutstrom, and David Tarr (1997) analyze the impact of the free trade agreement with the European Community on Morocco using 1980 data. They apply a CGE model to the 39 sectors that are the most likely to be affected by this agreement. They find that Morocco's welfare benefits from trade liberalization with the EU are about 1.5 percent. Augier and Gasiorek (2003) compute a CGE model to analyze the impact of trade liberalization between the Southern Mediterranean countries and the EU. For Morocco they find that the country experiences an initial decline in welfare of 1 percent of GDP, and then as tariff is reduced over time welfare rises. Elbehri Aziz (1999) analyzes the economic effect on Morocco from implementing an FTA with the EU. The short run analysis indicates that the FTA leads to significant welfare gains with a net positive effect on unskilled labor employment. Brown, Kiyota, and Stern (2005) use the Michigan CGE model, which allows for imperfect competition in non-agricultural sectors to estimate the potential impact of the U.S. They find that there are some welfare gains for Morocco as a result of the US FTA, these gains are however small and can be increased with unilateral trade liberalization.

On the other hand, there were some attempts to measure the partial equilibrium effects of trade liberalization in Morocco. Janet Currie and Ann Harrison (1997) contribute to the debate on trade and employment linkages in Morocco by using micro data on individual

enterprises to directly apply a model derived from the firm's labor demand decision, and to control for unobserved, constant firm-level determinants of labor demand using firm fixed effects. For them, although employment in the average private sector manufacturing firm was unaffected, there were significant employment losses in exporting firms and in the most highly affected firms. Their results suggest that although labor markets were flexible, many firms cut profit margins and raised productivity rather than reducing employment. By also using firm level data, Lahcen Achy and Khalid Sekkat (2004) investigated the impact of trade liberalization on manufacturing sector employment in Morocco. They analyzed the effect of trade openness on different skill levels of the manufacturing labor force and investigated the role of technology in explaining the magnitude of employment response following trade liberalization reforms.

This paper adds to the existing literature by studying the impact of Morocco's trade policy between 2000 and 2007 on domestic markets and the sensitivity of the household to changes in goods and factor's prices. Morocco is an interesting case because it has aggressively opened its economy in the last two decades and because there is a high degree of heterogeneity between the urban and rural households in terms of consumption and source of income. At the same time it is important in the Moroccan case to disentangle the effect of the numerous policies to liberalize the economy and those undertaken to fight poverty from trade liberalization.

The period after 2000 saw in effect both an increase in trade and economic liberalization and an emphasis toward policies to eradicate poverty. The economic transition to a more open economy saw the launch of far reaching reforms beyond trade liberalization to create an environment that is favorable to increased investment. The regulatory and institutional reforms (Cherkaoui2010) were accompanied by strong commitments and efforts made to meet the millennium development goals and to eliminate social exclusion, poverty and vulnerability of large segments of the population and improve the poor's access to social services. In the year 2000 significant efforts were undertaken to attempt to reduce poverty via a number of programs. These programs have different scopes and each attempt to tackle one cause of poverty or exclusion.

The objective of the paper is to measure the effects of trade liberalization on household welfare by analyzing three channels through which trade policy can affect household. The first one is the impact of trade policies on domestic prices. The second is the impact of goods prices on wages. The third is the impact of the changes in the prices of goods and wages on the changes in household welfare. The first impact of tariff reduction is to change the foreign price of the good and its relative price. The resulting disequilibrium in the labor market will affect wages. The combination of the price and wage effect will influence household welfare (Nicita 2009).

A pass-through model is first applied to obtain the impact of trade policies (tariff reduction) on prices of agriculture and manufactured goods in both the urban and rural sector. Second the wages response to agriculture and manufacture goods price changes is estimated. Third the effect of both price and income changes on aggregate welfare is estimated.

To briefly summarize the results, it was found that liberalization has reduced the consumer prices of both the agricultural and manufacturing products and led to an increase of wages. The reduction in the prices of the goods meant an amelioration of household welfare as consumers; however, households that were net suppliers of agricultural goods saw their revenue decline.

The overall effect of the reduction in tariffs is positive and leads to an increase in aggregate household income at 2.7 %. This is due primarily to an increase in spending of 2.8% and of

wages for 0.8%. The losses due to the reduction of agricultural products are estimated at 0.9%.

Section 2 presents the Moroccan trade liberalization process. Section 3 describes the data and discusses the empirical methodology utilized to estimate changes in domestic prices, wage price elasticity and changes in household welfare. Section 4 discusses the results and Section 5 concludes.

2. Morocco's Trade Liberalization

Morocco's trade liberalization strategy started in the 1980's and is conducted through reducing tariff and non-tariff barriers with the rest of the world and through being party to a large number of North-South and South-South regional and bilateral trade agreements.

Morocco's trade liberalization led to the promulgation of a new Trade Law in 1992 that eliminated quantitative restrictions and used customs tariff as the principal means of protecting domestic production.

Morocco has been a member of GATT since 1987 and a member of the WTO since 1995. As a member country Morocco commits to two main obligations: the most favored nation clause and the national treatment clause. The commitment consists of ceilings on custom tariff rates for non- agricultural goods and of binding commitments on tariff and quotas for agricultural goods. Morocco has completed its commitment in the different agreements dealing with multilateral trade in goods and services. Morocco also signed 11 free trade agreements involving 55 countries and preferential trade agreements with 23 countries. Most of these trade agreements entered into force after 2000. The association agreement with the EC, Morocco's main trading partner entered into force in march 2000 and the free trade agreement with the USA which, contrary to the EC association agreement includes agricultural and service sectors, only entered into force in 2006 (Cherkaoui 2010)

Tariff reforms for non-agricultural products consisted in the reduction of tariffs, the elimination of most quantitative restrictions on trade, the simplification of customs policy through a reduction in the number of taxes and lines and the simplification of import procedures. The first tariff reform which started in 1983 allowed the reduction of customs duties from a maximum rate of 400% to rates of 160%, 120%, 90% and 60%. The second reform took place in 1993 and reduced the maximum tariff rate to 50%. The Uruguay Round in 1995 led to the binding of tariff at 55 percent (including the import levy), and to the commitment to reduce the tariff rate by 2.4 percent per year to reach a reduction of 24 percent over a ten year period.

Since the year 2000 a number of measures were adopted: the fiscal import levy was integrated in the tariff in 2000¹; the tariff rate on smuggling products was reduced to 20 percent and then to 10 percent; a minimum tariff on imported product in an investment project as specified in the Investment charter was established; reference prices were eliminated in August 2002; the rate on all products admitted "*en franchise de droits d'importation*" with the EU were reduced to 10 percent in 2003; a tariff reform for some sectors was adopted in 2006 within the Plan emergence; the maximum tariff was reduced from 50 to 45 percent in 2007; the maximum tariff rate was reduced from 45 to 40 percent in 2008.

Tariff reform for the agricultural products consisted, after the elimination of quantitative restrictions, in the establishment of tariff equivalent for products such as live animals, meat,

¹The fiscal import levy (*prelevement fiscal à l'importation*) applicable to all imported products at a rate of 12.5 percent was first introduced to replace the special import tax (*tax speciale à l'importation*) and the customs stamp duty. In 2000 the fiscal import levy (PFI) was integrated to the tariff.

dairy products². As a result of the Uruguay round cycle there was the consolidation of tariffs applied to the agricultural product at 60 percent including the fiscal import levy. Morocco committed to applying tariff rate quotas on a number of agricultural products. These tariff rate quotas which concerned meat, oilseed meals and fresh milk were not filled due to a lack of demand. The tariff rate for agricultural products remains very high. The maximum tariff is 304 percent and the number of tariff lines is 38 with 22 lines higher than 50 percent.

The simple average tariff rate declined from 34.5% in 2000 to 20.5 in 2009. The tariff reduction affected both agriculture and manufacturing. The simple average tariff rate on agricultural products was reduced from 40.7% in 2000 to 30.4% in 2009. The simple average tariff rate on textile went from 40.0% in 2000 to 18.2 percent in 2009 and the rate on agro industry went from 60.7 percent in 2000 to 42.8% in 2009.

Following trade liberalization imports more than doubled and reached 265 million Moroccan DH in 2009 against only 122 million Moroccan DH in 2000. Europe is Morocco's main trading partner accounting for more than 60 percent of imports. Agriculture represent only 14.2 percent of total imports while the manufacturing sector represent more than 60 percent of total imports with machinery and transport equipment and textile being the most important manufactured products imported.

In US dollars the growth of agricultural imports increased from 1941 million US dollars in 2000 to 4408 million in 2009 while manufacture imports increased from 7253 million US dollars in 2000 to 20823 million US dollars in 2009.

The increased trade liberalization was accompanied by a substantial adjustment in prices and wages in Morocco. Upward trends are observed in household and production prices in agriculture and in industry. Wages per person increased from 13241 Moroccan DH per year in 2000 to 17535 Moroccan DH in 2008. Expenditures per person indicate an increase in the wealth of Moroccan households in the years between 2000-08 from 25069 DH per year per person in 2000 to 34202 DH per person per year in 2008.

3. Methodology and Data

We use the framework and adapt Nicita(2009) and Porto's (2006) methodology to evaluate the impact of trade liberalization on the welfare of the Moroccan households using ex-post econometric analysis based on household surveys. To analyze the impact of trade policies on the price of large categories of domestic goods a pass-through model is used. The impact of trade policies on household revenues is affected by the impact of price changes on wages. The impact of changes in goods prices and wages on household welfare can then be evaluated using a farm household model.

Goods prices can react differently to a change in economic policies such as a tariff reduction. Retail prices may not incorporate all the changes that occur in frontier prices. The availability of substitutes, transport costs, competitors prices, intermediaries margins all influence the extent to which reductions in frontier prices are passed or not to the retail prices.

We use the framework (and the notation) developed by Nicita's (2009) except that we do not differentiate by regions due to lack of data for each region on prices. We express prices as follows:

$$P_{gt} = PP_{gt}^{\alpha} (PX_{gt} (1 + \tau_{gt}) TC_{gtr})^{1-\alpha} \quad (1)$$

Where:

²Agricultural products have to some extent and until the 1990's benefitted from non -tariff protection under import licensing especially for basic agricultural products such as meat, cereals, and sugar.

P_{gt} represent the market price faced by households with P being the price, g the good and t the time; PX_{gt} represent the international price in local currency, τ_{gt} represent the tariff of good g at period t ; TC_{gt} represent the trade cost and PP_{gt} represent production price. Here α gives the domination of local varieties over imported varieties and $1-\alpha$ the importance of international prices, of trade policies and trade costs on local prices. If $\alpha=0$ the pass through is complete and the changes in the frontier prices are completely passed in the retail price. If $\alpha=1$ the pass through does not exist and the movements in the frontier prices have no impact on retail prices.

By taking the log of equation (1) Nicita (2009) obtains the equation below:

$$\ln P_{gt} = \beta_0 + \beta_1 \ln PP_{gt} + \beta_2 \ln PX_{gt} + \beta_3 \ln TC_{gt} + \gamma \ln (1 + \tau_{gt}) + \varepsilon_{gt} \quad (2)$$

We estimate the following equation:

$$\ln P_{gt} = \beta_0 + \beta_1 \ln PP_{gt} + \beta_2 \ln PX_{gt} + \beta_3 \ln TC_{gt} + \gamma \ln (1 + \tau_{gt}) + \gamma_1 \ln (1 + \tau_{gt}) TC_r + \gamma_2 (\ln (1 + \tau_{gt}) TC)^2 + \varepsilon_{gt} \quad (3)$$

Where:

γ Represent the tariff elasticity of the pass-through; that is the percentage increase in the local price resulting from a one percent increase in the tariff. If $\gamma = 1$ the pass-through is complete, that is all variation in tariff is passed into retail price and if $\gamma < 1$ then the pass-through is incomplete. γ_1 and γ_2 represent the impact of trade costs on the pass-through.

The price elasticity of wages is then estimated using the following equation:

$$\ln W_{ijt} = \sum \pi^s \ln P_{gt} \delta^{g,s} + I_i \theta + H_j \varphi + \varepsilon_{ijt} \quad (4)$$

Where:

W_{ijt} is the wage of individual i in household j at time t . P_{gt} is the price of good g . I_i is a vector of individual characteristic such as age, education, gender, household head and a binary variable for the sector of activity (agriculture, manufacture, energy, transport, and services). H_j is a vector of household characteristics. π^s is a binary variable for the qualification of workers. Those with 9 years of education and over are considered as qualified workers. $\delta^{g,s}$ is the wages response to a change in prices for the qualified and non-qualified workers.

Finally to evaluate the overall impact on household welfare a farm household model is used which takes into account the fact that the household both produces and consumes goods. Household utility is a function of a vector of prices P that is faced by household and a revenue Y which incorporates revenues from farm activities and from wages.

$$\mu_h = V_h [Y_h, P] \quad (5)$$

Applying the Chain rule and Roy's identity equation (6) is obtained where the change in the utility of household h depends on the changes of local prices and of the household revenues, the agricultural production and the consumption.

$$d\mu_h = \sum \theta_h^w dw_s^s + \sum \theta_{hg}^x dp_g - \sum \theta_{hg}^c dp_g \quad (6)$$

Where :

θ_{hg}^c is the share of household h revenue spent on goods g , θ_{hg}^x is the household h revenue obtained via the sale of good g ; θ_h^w is the share of revenues that household h obtains by selling its labor; dp_g is the change in price g expressed in percentage term and dw_s^s is the wage change expressed in percentage term.

The econometric estimation of Eq. (3) combines a time series of cross-sectional data set into a panel. The estimations are performed separately for agricultural and manufacturing goods.

In Eq. (3), the price of locally produced import competing goods P_{gt} is likely endogenous. To deal with this problem, we use its lagged value as an instrument. We expect the lagged value to be less affected by endogeneity concerns. Although it is common to use lagged variables as instruments, it is important to ask if the correlation between producer prices and consumer prices in time t may be present between the lagged producer prices and consumer prices. If there is autocorrelation in the residuals, then the endogeneity argument that invalidates the results from OLS may also bias the results from the use of lagged instruments. Since adjustment in prices is generally of much shorter terms, there is good reason to believe that the correlation will be practically absent.

In the model outlined above, the pass-through effects are captured by the coefficients of the tariff variable. In principle, the theory suggests a positive sign on the pass-through coefficient γ . We are also interested in whether the extent of pass-through varies for manufacturing and agricultural sectors. A larger local supply and the fact that consumers tend to prefer domestically produced agricultural products, are some arguments that could favor lower pass-through for agricultural products relative to manufacturing. On the contrary, agricultural products are generally more homogeneous, thus competition from imported varieties could be relatively stronger.

The estimations are based on the 2006-2007 household survey. This survey of household standard of living aims at describing the socio economic status of households and measuring inequality in living standards. The survey covers 7200 households (4320 urban and 2880 rural). The trade data is obtained from the Office des Changes. Data on prices and wages are obtained from the High Commission of Planning.

A first look at the 2006-2007 household survey allows us to analyze the expenditures and revenues sources of the household by income categories including: poor, vulnerable and the non-poor, non-vulnerable. The poor (relative poverty) refers to a threshold equivalent to the food poverty line increased by the non-food expenditure, that is those who actually reach the food poverty line. The vulnerability threshold defining the disadvantaged is set at 1.5 times the poverty line.

According to the 2006-2007 household survey the budget coefficient of the major items of consumption differs depending on the place of residency and on the level of income. Food and tobacco, and housing and energy account for 78 percent of the budget of the urban poor and 81.6 percent of the budget of the rural poor. The rest of consumption is devoted first to health and to transport and communication. Food and tobacco, and housing and energy account for still a significant portion of the budget of the vulnerable and account for more than 75 percent of the budget. For the neither poor nor vulnerable this items still account for 58.7 percent of total expenditures in urban areas and 68 percent in rural areas. For both the rural and urban poor and vulnerable the most important items are food, energy and housing and anything that affects these prices will have a strong impact on their well being.

The standard of living survey defines household income by the sum of cash earnings net of compulsory deductions (earned income and wealth, the cash transfers deducted from the donor household income and added to the recipient household income, the social income (such as pensions, benefits and family allowances, etc.) and part of in-kind income observed by surveys statistics (imputed rent for owners and buyers to homeownership, grants and social and family donations, consumption of foodstuffs, in-kind wage benefits). The value of social benefits in-kind which are not taken into account are the in-kind benefits such as health, education and free training, subsidies given for the consumption of goods and food service and the exchange of services between households and in the neighborhood.

The 2006-2007 household survey indicates that for the poor and vulnerable in the urban areas wages represent a significant portion of revenues. For the rural areas agricultural activities are the most significant source of income. Even if salaries are here combined with “other remuneration” they seem to have become more important as a source of revenue for the poor and the vulnerable in the rural areas. The revenues coming from wages are certainly more important in the urban areas than in the rural areas. The importance of salaries as a component of poor and vulnerable households implies that the restructuring that the economy will face through an increased openness is likely to affect these segments of the population. More than 50 percent of the urban poor’s revenues and more than 45 percent of the rural poor’s revenues in Morocco comes from wages. The impact of trade liberalization on these revenues will thus have an impact on poverty.

4. Results

Table 8 gives the results for the estimation of equation 3 which links tariff and goods prices using both GLS and Instrumental Variable. The impact of the change in the border price on the retail price is positive and significant as suggested by theory. The pass-through for the country as a whole is however relatively small compared to what was found in similar studies of other countries. It is quantified at 13 percent for agricultural products and 16 percent for manufactured products. Nicita (2009) for example found the pass-through for Mexico to be around 33% for agricultural products and about 27% for manufactured products.

Table 9 gives the estimation results related to the response of wages to change in prices. In general results find a positive correlation between agricultural prices and wages and a negative correlation between manufacturers prices and wages. The price of manufactured goods impacted negatively on wages and the price of agricultural goods impacted positively on wages. The coefficient of the control variables are significant and as expected; wages increase with education and age and are higher for male, permanent workers and household head.

The results given in Tables 8 and 9 show that tariff liberalization led to a reduction of both agricultural and manufacturing prices and to an increase in wages. Equation 6 tells us that household welfare is affected by what happens to the revenue spent on goods, the revenue obtained via the sale of goods and the revenues obtained by selling its labor. If the price of the consumption basket declines or the wages increase then the household is better off. Equation 6 is calculated for each household and the results aggregated across all households to obtain the impact of tariff liberalization on the Moroccan households. The results are presented below in table 10.

The results show that liberalization has reduced the prices of agricultural products and manufacturing and led to an increase of wages. To capture the impact of these changes on household welfare equation 6 gives a measure of the change in household income resulting from a change in the prices of goods and factors of production. Equation 6 is calculated taking into account the composition of expenditure and income and different types of labor (skilled and unskilled). The price effect of tariff liberalization on aggregate household income is estimated at 2.7%. This is due primarily to an increase in spending of 2.8% and of wages for 0.8%. The losses due to the reduction of agricultural products are estimated at 0.9%.

5. Conclusion

The objective of the paper was to measure the effects of trade liberalization on Moroccan household welfare by analyzing three channels through which trade policy can affect the household. The first one is the impact of trade policies on domestic prices. The second is the impact of goods prices on wages. The third is the impact of the changes in the prices of goods and wages on the changes in household welfare.

This study analyses the distributive effects of tariff liberalization in Morocco. The results indicate that the impact on household both as income earners and as consumers varies depending on whether the household is urban or rural. The pass-through is positive and significant but is smaller than expected. It stands at 13% for agricultural goods and at 16% percent for manufactured goods.

The results show that liberalization has reduced the consumer prices of both the agricultural and manufactured goods and led to an increase of wages. The price of manufactured goods impacted negatively on wages and the price of agriculture goods impacted positively on wages. The coefficient of the control variables are significant and as expected; wages increase with education and age and are higher for male, permanent workers and household head.

The combination of the price and wage effect determines the aggregate impact on households. The reduction in the prices of the goods meant an amelioration of household welfare, however households that were net suppliers of agricultural goods saw their revenue decline. The overall effect of the reduction in tariffs is positive and leads to an increase in aggregate household income at 2.7%. This is a relatively high level of improvement. This is due primarily to an increase in spending of 2.8% and of wages for 0.8%. The losses due to the reduction in the price of agricultural products are estimated at 0.9%.

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Table 1: Evolution of Customs Tariff by Product

Year	Agriculture	Energy	Mines	Agro-industry	Textile	Others	Global
2000	40,7	18,9	22,4	60,7	40,0	25,2	34,5
2001	40,5	18,9	22,3	56,5	40,0	25,2	33,9
2002	41,6	18,9	22,3	58,6	40,1	25,1	33,9
2003	41,7	17,1	22,3	58,4	39,3	25,0	33,7
2004	41,3	17,1	22,3	57,7	39,3	25,0	33,6
2005	41,4	17,1	22,3	57,6	39,1	25,0	33,5
2006	36,9	9,3	13,2	52,1	27,7	20,2	26,9
2007	34,9	9,3	12,6	49,0	24,5	18,7	24,7
2008	32,7	9,3	12,1	45,9	21,4	17,2	22,6
2009	30,4	9,3	11,5	42,8	18,2	15,7	20,5

Source: Office des Changes

Table 2: Imports of Agriculture and Manufactures in Millions \$US

Year	Agriculture	Manufacture
2000	1941	7253
2001	1936	6882
2002	2054	7670
2003	2041	9547
2004	2478	11836
2005	2774	12858
2006	2832	14594
2007	4691	19418
2008	5887	24355
2009	4408	20823

Source: <http://stat.wto.org/StatisticalProgram/WSDDBStatProgramReporter.aspx?Language=E>**Table 3: Imports to Morocco by Origin 2000-2009 (in Millions of Moroccan DH)**

Year	Europe		Asia		North America		Africa		Australia		Total	
	Imports	Part %	Imports	Part %	Imports	Part %	Imports	Part %	Imports	Part %	Imports	Part %
2000	78869	64.4	24399	19.9	13145	10.7	5631	4.6	456	0.4	122500	100
2001	81352	65.2	23750	19.0	12354	9.9	6805	5.5	456	0.4	124718	100
2002	84936	65.2	25076	19.3	12721	9.8	6734	5.2	731	0.6	130198	100
2003	94273	69.4	22189	16.3	12676	9.3	6588	4.8	194	0.1	135920	100
2004	106524	67.7	28536	18.1	15686	10.0	6275	4.0	384	0.2	157406	100
2005	119057	64.7	38714	21.0	15819	8.6	9853	5.4	502	0.3	183946	100
2006	131891	62.6	47221	22.4	19489	9.3	11512	5.5	438	0.2	210551	100
2007	162971	62.4	53239	20.4	28221	10.8	16370	6.3	433	0.2	261233	100
2008	199718	61.3	74274	22.8	33800	10.4	17389	5.3	861	0.3	326041	100
2009	159397	60.1	57515	21.7	33860	12.8	13524	5.1	726	0.3	265022	100

Source: Office des Changes

Table 4: Structure of Imports by Products 2000-2009 Millions of Moroccan DH

Year	Agriculture		Industry		others		Total	
	Imports	Part %	Imports	Part %	Imports	Part %	Imports	Part %
2000	20013	16.3	25417	20.7	77069	62.9	122500	100
2001	21211	17.0	23081	18.5	80426	64.5	124718	100
2002	21790	16.7	26213	20.1	82195	63.1	130198	100
2003	18756	13.8	29975	22.1	87189	64.1	135920	100
2004	13606	8.6	34907	22.2	108893	69.2	157406	100
2005	27657	15.0	38535	20.9	117754	64.0	183946	100
2006	28004	13.3	46954	22.3	135594	64.4	210551	100
2007	42590	16.3	55916	21.4	162727	62.3	261233	100
2008	58688	18.0	71729	22.0	195624	60.0	326041	100
2009	37657	14.2	66827	25.2	160538	60.6	265022	100

Source: Office des Change

Table 5: Price and Wages

Year	Agriculture		Industry		Wages per person per year	Expenditure per person per year
	Household prices	Production prices	Household prices	Production prices		
2000	159.1	99.8	159.7	107.0	13241	25069
2001	157.5	99.2	162.9	105.1	14729	25743
2002	164.2	102.0	164.7	103.8	15060	26519
2003	166.4	104.1	165.4	105.1	15674	27826
2004	169.0	105.9	166.9	110.4	16257	28394
2005	169.5	105.3	171.6	120.5	17332	29644
2006	176.1	109.0	180.9	127.6	16261	28839
2007	181.8	108.9	179.0	129.9	17408	31170
2008	194.2	118.4	181.7	153.5	17535	34202

Source: HCP

Table 6: Household Expenditure by Main Item

		Expenditure by Main Item									Total
		food, tobacco	Clothing	Residential Energy	Home Appliances	Health & Hygiene	Transport Communication	Education & Leisure	Other	Expenditures not intended for consumption	
Poor	Urban	1623.9	64.5	885.0	78.7	200.1	160.6	108.4	37.5	24.5	3183.3
	%	51.0	2.0	27.8	2.5	6.3	5.0	3.4	1.2	0.8	100.0
	Rural	1576.1	64.2	664.1	75.8	118.8	103.9	88.6	20.3	34.3	2746.2
	%	57.4	2.3	24.2	2.8	4.3	3.8	3.2	0.7	1.2	100.0
	Total	1590.5	64.3	730.6	76.7	143.2	121.0	94.6	25.5	31.4	2877.6
Vulnerable	Urban	2513.7	115.5	1297.5	143.6	342.8	215.3	173.5	55.9	49.9	4907.7
	%	51.2	2.4	26.4	2.9	7.0	4.4	3.5	1.1	1.0	100.0
	Rural	2578.2	128.1	909.7	137.5	235.8	235.7	124.9	72.9	68.5	4491.2
	%	57.4	2.9	20.3	3.1	5.3	5.2	2.8	1.6	1.5	100.0
	Total	2551.7	122.9	1069.1	140.0	279.8	227.3	144.9	65.9	60.9	4662.5
Neither Poor, nor vulnerable	Urban	6029.9	563.6	3307.9	587.9	1214.7	2110.1	841.7	691.2	546.5	15893.6
	%	37.9	3.5	20.8	3.7	7.6	13.3	5.3	4.3	3.4	100.0
	Rural	5141.8	320.2	1790.4	378.4	671.0	1014.7	245.7	375.5	255.6	10193.2
	%	50.4	3.1	17.6	3.7	6.6	10.0	2.4	3.7	2.5	100.0
	Total	5704.4	474.4	2751.6	511.1	1015.4	1708.5	623.2	575.5	439.9	13804.0
Total	Urban	5373.9	482.9	2937.4	507.3	1055.8	1776.8	721.9	579.4	458.7	13894.2
	%	38.7	3.5	21.1	3.7	7.6	12.8	5.2	4.2	3.3	100.0
	Rural	4024.2	238.1	1420.6	278.0	488.9	699.9	194.6	253.0	179.6	7777.0
	%	51.7	3.1	18.3	3.6	6.3	9.0	2.5	3.3	2.3	100.0
	Total	4786.7	376.4	2277.5	407.6	809.1	1308.2	492.5	437.4	337.2	11232.7

Source: HCP, ENVM 2006-2007

Table 7: Distribution (%) of Per Capita Income of the Various Components of the Population According to the Sources of Income and Living Environment

		Salaries and other remuneration	Mixed income of non-agricultural self-employment	Agricultural activities mixed income	Gross operating income from rental business	Income from property	Transfers	Other income received	Total income
Poor	Urban	56.93	28.40	0.95	6.46	0.02	6.25	1.00	100
	Rural	46.47	7.96	30.20	6.58	0.09	7.92	0.78	100
	Total	50.75	16.33	18.22	6.53	0.06	7.23	0.87	100
Vulnerable	Urban	56.61	21.18	1.18	9.53	0.04	10.01	1.46	100
	Rural	33.86	9.53	40.52	5.75	0.06	9.05	1.22	100
	Total	44.26	14.86	22.54	7.48	0.05	9.49	1.33	100
Neither Poor, Nor Vulnerable	Urban	44.02	27.11	1.11	10.38	0.45	14.17	2.77	100
	Rural	21.40	16.89	41.79	4.84	0.46	13.20	1.43	100
Total	Total	37.94	24.37	12.04	8.89	0.45	13.91	2.41	100
Total	Urban	44.86	26.84	1.11	10.27	0.42	13.83	2.67	100
	Rural	24.58	15.36	40.94	5.06	0.38	12.32	1.36	100
	Total	38.80	23.41	13.01	8.71	0.41	13.38	2.28	100

Source: Royaume du Maroc, Haut Commissariat au Plan, www.hcp.ma, ENNVN 2006/2007

Table 8: The Tariff Pass-Through: Dependant Variable=Log Price Agriculture and Manufacture

Variable	Agriculture GLS	Agriculture IV	Manufacturing GLS	Manufacturing IV
Constant	-0.932	0.65	3.35	3.55
T student	(-1.55)	(3.61)	(1.97)	(1.77)
Import Price	0.33	-1.02	0.15	0.22
T student	(11)	(0.35)	(2.14)	(0.24)
Production Price	0.64	0.22	0.055	0.07
T student	(4.27)	(3.67)	(0.24)	(0.54)
Tariff	0.07	0.13	0.17	0.16
T student	(5.38)	(1.86)	(2.83)	(2)
R2	0.63	0.73	0.55	0.65
Heteroscedasticity		4.22		9.22

Table 9: Price-Wage Elasticity's; Dependant Variable=Log Earnings (Wage Regression Using Instrumental Variables) Number of Observations: 2567 Urban Salaried Workers

	Parameters	T statistic
Constant	6.2569	34.7136
Manufacture Price unskilled	-0.1150	5.7990
Agriculture Price unskilled	0.2475	1.7220
Manufacture Price skilled	-0.07292	12.2633
Agriculture Price skilled	0.2544	13.1625
Age	0.0512	4.8797
Age squared	-0.0004	-3.0682
Education	0.0334	6.9219
Education squared	-0.0007	-6.5304
Gender	0.22	4.7128
Permanent workers	0.34	2.9065
Primary activities	0.1678	2.3067
Services	-0.1232	-4.1612
Manufacturing sector	-0.1891	-5.6122
Area of farms, households and other	-0.4219	-7.3690

Notes: Adjusted R-square : 64,6%

Table 10: Impact on Welfare

	Pass-through			Revenue Share		Structure of Expenditure		Change in Real Income			Total Change in real revenue due to trade liberalization		
	Agr	Manf	Agr	Wage Qual.	Wage non Qual.	Agr	Manf	Agr	Work	Expenditures	total	Agr	Manf
National	7	19	5	20	39	40	23	-0.9	0.8	2.8	2.7	0.9	1.8