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Are distortions good for development?
Structural transformations and cotton in
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by

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Are distortions good for development? Structural transformations and cotton in Uzbekistan

Lorena Lombardozi*

Abstract

Agriculture is at the origin of all economic activities and thus obtains a notable position in growth theory. The contribution of primary sector to long-term economic development has given space to asymmetrical positions. In the current context of globalized markets and downsized states, Uzbekistan is incontestably an exceptional case-study, applying distortive measures to its economy, and to agricultural sector in particular, to actively shape its comparative advantages. With reference to the cotton sector taxation in Uzbekistan, this analysis proposes to shed light on the implications of the main theoretical arguments around distortions. It will investigate the “circular cumulative and interactive process” produced and how it is being a driver of structural transformation, to exploit economies of scale and transfer capital investments for heavy industry, concluding that distortion can actually be instrumental for development.

Keywords: cotton; cash-crops; structural transformation; Uzbekistan.

JEL classification:

O53, O40, P16, P21, Q10

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1. Introduction

Agriculture is a potential source of economic surplus whose transfer to other sectors can have extraordinary impacts on societies' development. A key tool in channelling surplus through public investments and fostering industrialization is taxation. However, taxation has been an object of controversy among different economic approaches. Blamed to produce distortive effects and efficiency loss (Shiff et al., 1999), such "distortions" can nevertheless activate multifaceted and synergetic cumulative cycles between sectors through productivity enhancements for others (Kay, 2001).

Since the Soviet era, the "white gold" has been a key activity for farming and welfare in many Central Asian societies, and has been central in the process of surplus accumulation (Kandiyoti, 2007; Muller, 2006). Uzbekistan state-centred capitalism, has adopted a peculiar modernization strategy where implicit fiscal pressures on the cotton sector has been aligned to social and economic stability objectives. Its sustained GDP growth, and decent welfare coexist with pressing political, economic and environmental challenges shaping a hybrid form of development (Ranaweera, 2003) which make this case study extremely fascinating.

This work seeks to contribute to the aforementioned debate by questioning the neoclassical arguments against distortions and, building upon the analysis of centralised cotton sector export which is characterised by implicit taxation, will argue that the use of such distortion is contributing to transfer surplus from agriculture to other sectors, and transforming the economic structure by challenging the static national comparative advantages.

The paper is organised as follows. After describing the methodology adopted, in chapter two, I will review the literature on the role of agriculture as surplus creator, the role of the state as surplus extractor and, through the analysis of taxation modalities, its intervention for inter-sectoral interaction. In chapter three I will contextualise my case-study, exploring whether and which taxation is applied to the cotton sector by linking it back to the theoretical debate and to the existing studies. In the fifth chapter, building upon the relevant variables of labour, industrial and trade, I will outline how cotton has been dynamically used as a source of surplus for national development. Chapter six will conclude by highlighting policy implications and raise further questions for further research.

Methodology

Rising out of the ashes of the former Soviet Union sits the Republic of Uzbekistan, fascinating for its legendary Silk Road heritage; geo-political status, Islamic traditions and Soviet legacy. Such a blend forms a society full of contradictions and implications from a political-economy perspective. This is the context in which I have endeavoured for almost three years as a development agency worker in Tashkent and the reason why I have decided to engage in the study of the economic transformation of this country.

This research delves into the current debate on agricultural taxation and will take a step back and a step forward in respect to its usual static sectorial approach. Namely, in the step backwards, I will inductively question the mainstream assumptions about agricultural taxation. The step forward, will inductively explore through macroeconomic indicators and also qualitatively whether Uzbek system of agricultural indirect taxation, through its dynamic mechanisms, is actually playing a role for Uzbek development.

Limited access to exhaustive baseline or panel datasets is one of the main limitations of economic research work on Central Asia. In fact, international organizations resources and governmental agencies data are often incomplete or not published. NGOs and think-tank present in the region also lack of primary source material to produce meaningful research outcomes. International organizations suggest taking state agency official data with caution; however it is believed that they are useful to show the main trends. For this reason, sources have been built upon multiple layers: raw-primary, secondary, qualitative and quantitative data are connected with multidisciplinary literature covering anthropology, soviet and post-soviet history, politics, neoclassical economics on taxation and agrarian political economy. Also, three unstructured interviews helped to qualitatively fill the gaps by bringing up personal insights: an energy expert (respondent A) from Tashkent, a farmer (respondent B) from Navoy region and a civil servant from the Ministry of Economics and statistics (respondent C). I have chosen to keep their anonymity in the attempt to obtain objective and unbiased contributions. In addition, email correspondences have been held with UN in Uzbekistan. Although referring to descriptive statistics to outline the macro effects, this research has adopted a qualitative and inductive approach, to capture the meso and micro impacts of taxation and therefore grasp the context in its complexity.

2. THE ROLE OF AGRICULTURE FOR ECONOMIC DEVELOPMENT

2.1. Theoretical debate

The debate on whether and how agriculture can affect economic development through surplus creation and which are the modalities of transferring it is a controversial one¹. A compulsory transfer is defined as a policy intervention occurring when the government taxes farmers' income, or introduces a compulsory purchase of crops at a price lower to the international one (Kay, 2001; 2003). Instead, a voluntarily transfer occurs when banking savings move from agriculture towards industrial investments or when the landlord engages directly in non-agricultural investments. The compulsory method of transfer, relevant for this analysis, is not always successful and can either hamper or facilitate growth (ibid). Looking at the different theoretical approaches, many authors recognised agriculture productivity growth as an instrumental passage to modernize the economy towards industry (Thirwall, 1999, Lewis, 1954). The primary sector contributes to the economy also by providing cheap food to urban sectors, becoming a potential market for manufactured products, other than a supplier of factors of productions such as cotton for textiles, labour force shift² and as capital source (Byres, n.d.; Mundle, 1985). In addition, in an open economy cash crops can be a source of foreign currency, and therefore of access to foreign input (Rostow, 1990). Nevertheless, development economists warned about the risk of focussing on agriculture for surplus creation due to the intrinsic prices decline, decreasing return to scale, seeing industrialization as the key to growth (Rodan, 1943, Rostow, 1960). The structural school confirmed this view for similar reasons linked to natural resources dependency, factor immobility, non-response to prices and declining terms of trade (Prebisch et al., 1950; Myrdal, 1957; Meier, 1989). By contrast, neoclassical authors, see agricultural specialization justified by its "naturally endowed" comparative advantage given by abundance of land and other natural resources, unskilled labour and low capital capacity (Krueger, 1978; Bhagwati, 1985; Lin et.al., 2009). In particular, they criticize public interventions for supporting "inefficient" activities through protectionist policies and implicit tax with the result of distorting prices and thus reducing incentives for investments (Schiff &

¹ Agricultural surplus is "the total value of agricultural production minus what the agricultural sector retains for its own consumption and reproduction" (Kay, 2001:7). The net agricultural surplus is equal to the gross value less the purchases coming from other sectors, which also corresponds to the amount of resources transferrable to non-agricultural sector (ibid).
² Pioneering such analysis, Lewis underlines the importance of labour transfer from the traditional to the modern sector at constant wages (1954, Figurea, 2004)

Valdes 1992, 1998). Among other main approaches, neo-populist consider rural activities as subdued to urban elite political choices, and lack of land redistribution and investments in rural infrastructure, adverse terms of trade are perceived as signals of such bias (Lipton, 1977; Griffin et al. 2002). A neoclassical variant of neo-populism is expressed by the WB, which identifies in agriculture the solution to boost GDP and fight poverty in low-income countries by: a) augmenting agricultural output of small farmers through livelihood businesses, b) redistributing land property rights and c) promoting institutional governance, without state interventions³ (WB, 2008). However, those arguments are rebuttable by multiple evidences, including the present case-study. Firstly, transferring land property rights is not a ladder out of poverty if not accompanied by access to capital to invest in productivity enhancement (Rigg, 2006). Secondly, rural households de-commit to farming if stable wage-labour opportunities arise in the urban sectors (Oya, 2011; Ellis, 2010). Lastly, for rural entrepreneurship to be successful, marketing mechanisms and technological-processing capacity needs to be in place to fully develop the value chain and make activities scalable in the long-run (Hayami, 1996). Both neoclassical theory, advocating for “inter-sectoral neutrality”, and neo-populist considerations, not only overlooked the benefit of creating inter-sectoral markets linkages with their long-run implication vis-à-vis open economic competition, but also did not understand the role of “*special pressure mechanisms*” or “*pacing devices*” (Hirschman, 1958) to engage with such linkages.

Under a diametrically opposite perspective, agrarian political economists have shed light on the necessary explanations to comprehensively engage in the analysis of agriculture as a source of surplus and of the state as transfer-maker. In their view, government intervention cannot be simply discharged as responsible of “bad” agricultural and macroeconomic policies, either in the “urban-bias” sense, or as a market equilibrium demolisher. Looking at historical success stories, Kay showed for instance how the hierarchical Taiwanese and South-Korean developmental state created a virtuous interaction between industry and agriculture by intervening on inter-sectorial prices through taxes, subsidies and protectionist policies, which got prices “wrong” but enhanced agricultural productivity (Byres, 2003b; Kay, 2001, 2003). It is observed that high rates of taxation and surplus extraction can co-exist with a profitable and integrated primary sector if technology and productivity stay positive and investments in human and physical capital also develop (ibid; Binswanger, 1997). In fact, indirect taxes can

³ WB argues that if land is highly concentrated, the monopsonic power over labour creates slow capital accumulation and low incentives for investments.

be reinvested into agriculture activating multidirectional flows of surplus shaping a “win-win” scenario. Oppositely, in a “loose-loose” scenario, both sectors face static depression in output and productivity because of dysfunctional or missing connections (Kay, 2001; 2003). The analytical framework used in this paper, goes beyond the urban bias argument proposed by neo-populists, the neoclassical “neutrality” and the WB neo-liberal agenda and draws upon the political economy approach to explore whether Uzbek cotton taxation has been triggering inter-sectoral “circular cumulative interactions” (Byres, 1999:83). In particular, it will be shown here that states can play a key role to divert and channel agriculture input and output, enhance productivity and manage an integrated supply chain towards industry. It is believed that Uzbekistan embodies a typical case of infant capitalistic state that, in its “developmentalist moment” (Bernstein, 2002), sees the state acting as a manager of surplus transfer for national development. In the next paragraph I will screen the different types of taxation applicable to agriculture and observe their strengths and weaknesses.

2.2. Taxation in agriculture

As already mentioned, taxation can be broadly defined as an appropriation of the state to use capital and make it available to more productive sectors (Kay, 2001). Taxation can be implicit or explicit (Gereffi, 1990; *ibid*). Explicit transfers affect directly state budgets. In agriculture, examples are payments of rents or income taxes. In turn, implicit taxes, also called “quasi-fiscal” taxes, are for instance production quotas, price regulations, exchange-rate overvaluations, public procurement at administrated prices, credit ceilings, lending at preferential rates, inflation, or any government intervention which manipulates the terms of trade between agriculture and industrial commodities not affecting directly government budgets (*ibid*). Neoclassical literature recognises that implicit taxes, by lowering the cost of government imports and influencing the relationship with tradable vs. non-tradable goods prices, holds strong distributional and allocation effects (Schiff et al. 1998)⁴. Nevertheless, they argue that agriculture should be neither taxed nor favoured because if excessive surplus is extracted, it can depress rural living standards, spread socio-political instability or decrease agricultural output (FAO, 1993). However, having to choose between the two alternatives, the

⁴ A further distinction is between direct and indirect invisible transfers: direct invisible transfers include price controls, export taxes, quotas and import subsidies. Indirect invisible transfers occur through interest rates or appreciated real exchange rates (Winters et al. 1998; *ibid*).

neoclassical approach prefers explicit taxation to the implicit one because supposedly more efficient, transparent, and by allowing to “keep prices right”, promotes incentives for investments (Ranis, 1990; *ibid*). For instance, the IMF Poverty Reduction Strategy Paper⁵ (2008) for Uzbekistan recommended, among others, the removal of implicit taxation, which arguably would have resulted in strong decline of state revenue for public expenditure⁶. Opposite observers have noted that, by taxing the marketed surplus of staple foods, non-traded commodities, or imposing a land tax, developing countries might face administrative and managerial complexity (Helleiner, 1964). Thus, especially when modern accounting practices are absent and much of the population is self-employed or engaged in the informal sector, resources must be centralised to maximize revenue collection by taxing exportable or other traceable cash crops (*ibid*: 599). In general, it’s not a coincidence that for developing countries, including “transformational” economies such as Uzbekistan, commodity exports have been implicitly taxed through procurement prices and currency over-evaluation. Traditionally, cash crops served as a vivid source of foreign currency, crucial to acquire commodities or machineries and fuel public revenue to invest in social and physical infrastructure (Kornai, 2000). In view of the existing considerations, the following research questions are here addressed: In the analysed case study, is cotton being taxed? If yes, are there implications of the current taxation system of cotton for the broader national development? Is taxation creating inter-sectorial dynamics of growth? At which costs? Is poverty decreasing? In the following pages it will be attempted to answer the questions.

3. THE COTTON SECTOR IN UZBEKISTAN

3.1 Agriculture in Uzbekistan

63% of Uzbekistan is still rural and cotton is the backbone of the national agricultural sector (Djanibekov, 2010). From 1993 the Government of Uzbekistan (GoU) has been conducting a “light” land reform transforming the Soviet collectives *Kolkhoz* and state farms into *Shirkats* (cooperatives) in dry lands, but mostly by redistributing land to *Fermers* (private intensive farming) and *Dekhan* (household farms) (Spoor, 2012). Land still holds a non-commodity

⁵ GoU has ignored IMF prescription due to its geo-political status of Afghan neighbour which allows an high bargaining power and self-determination over its own political-economy strategy.

⁶ Nevertheless, if the effects of overvaluation and trade protection of industry are taken into account, the total nominal protection rate of agricultural exports declines considerably (Krueger et al.; 1978).

status (Amin, 2013) and plots are allocated for up-to 49 year to households through non-transferable long-term leases and cannot be used as collateral (Lerman, 2008). GoU admits that the land reform has been partial and superficial, justified by the fear of exposing land to mistreatment and underutilization risks (Butterfield, 2001).

The agricultural sector is inserted in a “stage-by-stage” developmental strategy which includes a) Gradual reforms to preserve national stability; b) Centralised state role in guiding and financing investments; c) Self-sufficiency in energy and food to insulate the economy from world price fluctuations; d) Development of jurisdictional framework for socio-economic progress; e) Social protection of weaker sectors of the population (Spechler, 2008). In parallel, the main objectives of the national agricultural policy are: a) Maximise and stabilise export revenue from agriculture; b) Achieve food security and grain self-sufficiency; c) Redistribute revenue from agriculture to other sectors; d) Improve rural standards of living (Guadagni et al., 2005).

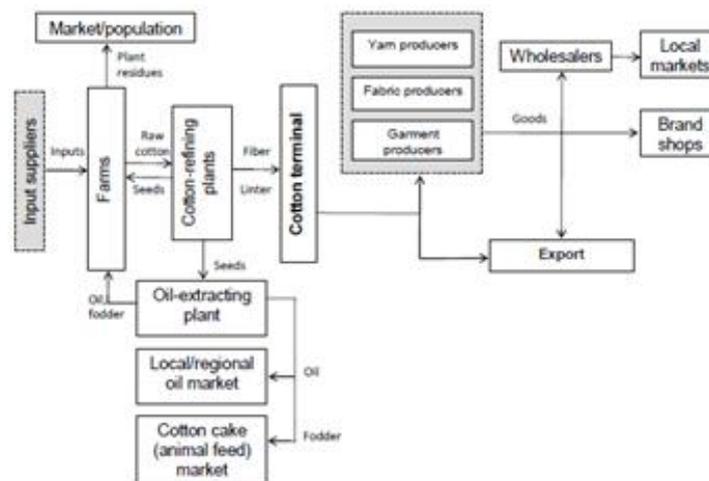
3.2 The Uzbek Cotton Supply Chain

Cotton is one of the most important agricultural raw materials and a leading textile fibre worldwide. It is grown in about 90 countries, with 80% of the production placed in the developing world (ICAC,2008). In the 1980s Uzbek cotton accounted for two third of the cotton produced in the Soviet Union (Romer, 1989). Arguably, the soviet legacy of cotton in Uzbekistan falls under the case of “enforced commoditization” (Byres et al., 2001). Nowadays Uzbekistan is the fifth largest exporter after the United States, India, Brazil and Australia, and sixth producer in the world⁷ after India, China, the United States, Pakistan and Brazil, which all together account for almost 80% of global production (WB, 2013; 2015). Cotton is one of the major source of foreign currency, bringing in about one-fifth of the country's total export revenue (around USD1 billion annually), employing one-third of rural labour and 40% of agricultural production (FAO, 2011; Djalalov, 2007). The marketing system of cotton has evolved since the soviet time nevertheless, the GoU still maintains, through monopsonic and indirect monopolistic power, the control along the entire supply chain (Djanibekov, 2010). The GoU purchases raw cotton at State Procurement (SP) price depending on the Tashkent

⁷ 8% of the world production and 9% of exports of which 80% as raw fibre

Commodity Exchange, where cotton lint is traded (Muller, 2006). Three main public actors are involved in the cotton post-production activities: the state ginning company⁸, the state trading organization⁹, and the ministry of Foreign and Economic relations, acting as coordinator. GoU each year decides the area and size to be sown according to land-suitability and soil-fertility, setting total production targets for each province (60% of their farmland) whose compliance is enforced through legal sanctions (Guadagni et al., 2005, Bock, 2011). Uzbekistan developed also a cotton certification system and R&D capacity for seeds to increase the volume of high grades and classes of cotton ("Oliy" and "Yahshi"). Barter and regional smuggling are sometimes common practises to avoid SP, nevertheless regular inspections are organized at provincial level, and certification for export and registration of exporters at central level.

Figure 1: The cotton Chain in Uzbekistan



Source: Adapted from Rudenko 2008.

⁸ UZKhlompokrom/UzPakhtasanoitish (UKP) deals with collecting, storing, ginning and classifying cotton, providing inputs and making payments.

⁹ handles exports sales by contracting cotton merchants, organizes shipments.

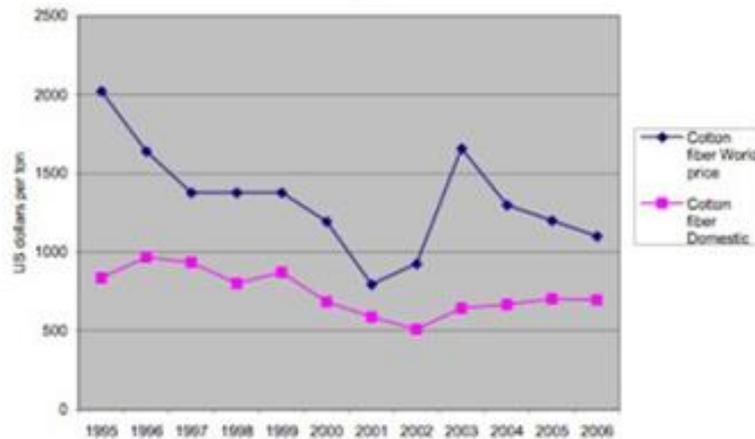
4. IS COTTON TAXED IN UZBEKISTAN?

Trying to identify which type of taxation Uzbekistan applies on its cotton sector, the answer seems pretty straightforward. GoU applies implicit taxation on cotton (Rosenberg, 1999). Cotton growers are taxed “visibly” through the lower prices paid by the state procurement system (SP) and “invisibly” through the misaligned exchange-rate (e/r) regime (WB, 2005; Baffes, 2004, Lerman, 2003; Djalalov, 2007). The SP price is established on the basis of the net world market price minus expenses for ginning, transport, custom, intermediary taxes, and certification (Rudenko, 2008). Farmers are almost completely exempted from explicit taxation which is manifested in four ways: 1) reduced profit tax rates¹⁰ (very small because of low revenues); 2) VAT applied to food at a reduced rate of 10%; 3) cotton excises levied on state orders¹¹; and 4) land taxes, irrigation charges and ecological taxes, unified in 1999 into one fee (Rosemberg et al.; 1999). Regarding the SP, WB reports that at an ex-ginnery price of \$1.03/kg, the farm receives the equivalent of \$0.63/kg (2005), underlining the strong disincentives for production and the uncertainty about where this “missing” revenue goes. Confirming the same surplus extraction pressure on cotton producers, other authors noted how even after the abolishment of licensing exports and export custom duties, the benefits of such tax exemptions did not reach cotton producers (Kulikova in Kandyoti, 2007). International Crisis Group states that only 10 to 15% of revenues earned through the sale of cotton return to the domestic agricultural sector (2005), which would suggest that such extraction from cotton is channelled to other sectors. In particular, the price paid to farmers was 126,000 Sum/ton of cotton¹². In 2003-2004 the cotton procurement price was 66% of the world price (see Figure 2), the widest recorded before the peak of 2008. Among the possible allocations, it is observed that the remaining 34% was spread along the supply chain among customs, certification agencies, transport suppliers, and financial institutions (Rudenko, 2008).

¹⁰ 3% special tax on agricultural enterprises with profitability under 25%.

¹¹ declined dramatically from 20% of total tax revenue in 1992 to less than 1% in 1998 (ibid).

¹² At the e/r of 960 Sum/USD and 32 % ginning out-turn ratio implies a price of \$0.41/kg.

Figure 2: Uzbek Cotton Fibre Domestic and World Market Prices

Source: Djalalov, 2007

In 2012, at an official rate of 2.123 Sum/USD, procurement prices per ton rose to 200,000 (USD348) when the international price (index A) was around \$1600¹³. Thus, it can be inferred that GoU, despite the price swings, has increasingly narrowed the gap between the world and domestic cotton prices and, as a consequence¹⁴, the net-transfer from cotton decreased (Djanibekov, 2010; Pomfret, 2008). In 2004, the net-transfer was only 1.4% of GDP, which at net of debt forgiveness, corresponded to 30% of farmer's gross revenue (ibid). In addition, to compensate for the low revenue from cotton prices, the GoU established a "double pricing system" through which 50% of output can be sold at a price 20% higher, subject to the condition of farmers fulfilling the quota requirement (Spoor, 2009).

Looking at the other mechanisms of cotton implicit taxation, exchange rate manipulation plays an additional significant role. Uzbekistan operates through a segmented foreign exchange market and an overvalued e/r, which results in a tax for exports and subsidization of imports. It has been argued that such a monetary regime discriminates against the consumer product imports, heavily affecting the import-export balance, and depressing the domestic price of tradable agricultural goods (Butterfield, 2001; Pomfret, 1997; Rosenberg et al., 1999; Winters et al. 1998; Schiff, 1998). Although those authors argue that such exchange rate triggers also informal mechanisms of contraband, especially with China, the welfare costs are intangible

¹³ Source: UKP, NYMEX

¹⁴ Due also to the convertibility of national currency occurred in 2003.

(Rosemberg, 1999)¹⁵. Moreover, in order to exhaustively list the set of distortions behind implicit taxation, it cannot be ignored that cotton producers receive multiple forms of subsidies such as cheap inputs (i.e. fertiliser, agrochemicals seeds), credit postponements, preferential interest rate, tractor services, irrigation and lint services¹⁶. Irrigation and pumping stations service, managed at provincial level, account around 37% of overall subsidies. Moreover, the government, through extension services, participates in the choice of timing the seeding, ploughing and harvesting (Guadagni et.al., 2005). This strategy is believed to make farmers less vulnerable to inputs prices instability¹⁷. Overall, even if subsidies partially compensates for the implicit taxation and the State Procurement (SP) increased, in 2005 the net-transfer [=implicit transfer - subsidies] (Figure 3) from cotton, was estimated still at around 31% of total revenue, equals to USD249/hectare. The Asian Development Bank calculated that between 2002-2003 indirect taxation was 10% of GDP generating USD1.04 billion (or USD350/ha) from cotton and wheat (2004).

Figure 3: Estimated Cotton Taxes and Subsidies

Cotton Sub-sector Taxes and Subsidies Estimated	
+ Explicit taxes	- Producers: land tax, income tax - Ginning: profit, land, property, water, road, etc. - Marketing: Value Added Tax, State Trading Organization (STO) commission - Seed crushing: profit, land, property, water, road, etc.
+ Implicit taxes	- Exchange rate control - Cotton price control
- Explicit subsidies	- Irrigation operational and maintenance costs, electricity and water - Credit and debt write-offs - VAT waiver: machinery services, fertilizers, fuel
- Implicit subsidies	- Credit lending at preferential rate - Oil price differential for cotton producers - Preferential price for agricultural machinery - Preferential price for fertilizers (Nitrogen)
= Net transfers	

Source: Guadagni et al. 2005

¹⁵ It is estimated that the combination of implicit taxation and subsidies results in net transfer out of agriculture of 3-4% of GDP facilitated by the increasing differential between exchange rates (*ibid*).

¹⁶ The monetary value of subsidies for the agricultural sector in 2004 was US\$ 441 million (*ibid*).

¹⁷ Rudenko notes that when processing costs are included in the calculation of subsidies to cotton, then the net transfer from cotton is almost zero (2008).

4.1 The presumed implications of cotton taxation

The implicit taxation on cotton within the Uzbek model has produced rather unilateral opinions. Firstly, the timid market-oriented approach has left development agencies disappointed, judging the transition to the market-economy as inadequate. Most of the literature argued that cotton is overtaxed and the state procurement leaves little space for incentive in productivity enhancement, putting large pressure on rural public services, (WB, 2005; ADB, 2003) and that such heavy taxation is an unsustainable solution (Spechler, 2008). On a similar page, Djalalov (2007) observed how, despite the reorganization of the *shirkats*, there is an estimated loss of farmer's income of around USD500 annually and, confirming that such implicit taxation creates disincentives to investments, estimated that around USD100 in raw material is lost because of obsolete processing infrastructure and weak marketing. As static solution to the current taxation, neo-classical authors suggested a unified land tax in ten transitional years, the liberalization of cotton prices and improvement of agro-technology which would increase farmer income to an estimated amount of USD 2,200 per year (Guadagni et.al., 2005). Some argued in favour of the abolition of all the excises on cotton seed crushing, increase of land taxes and water charges, elimination of VAT withholding and increase of procurement prices (Herman, 2007). However, although it is noted that distorted prices cause a sub-optimal allocation of resources, nevertheless they recognised the eventual benefits of subsidies for farmers' welfare. In conclusion, most of the past analysis failed to view Uzbek cotton sector beyond a mere "anomaly" within the world market. Nevertheless, looking it from an oppositely critical perspective, it is impossible to not to expand the discussion and shed lights on other underestimated variables. For instance, such literature has oversimplified the challenges linked to market-economy transition and the potential benefit of taxing strategic exports. It discharged the role of the state as a developmental agent that can produce dynamic transmissions of surplus, which instead, it is argued, should liberalize agricultural inputs and outputs and redistribute land to incentivise production. Moreover, the cotton sector has been analysed in a vacuum, both temporally and economically, leaving a need for further research to explore its multidimensional implications. Based on this initial considerations, in the next part it will be explored, referring to theoretical debate and test it on available figures and sources, whether or not a "developmental surplus" is created from such taxation, whether is transferred out of agriculture and where it is delivered.

5. THE POLITICAL ECONOMY BARGAIN OF UZBEK COTTON TAXATION

As reviewed in the previous chapter, authors argue mainly in favour of reforming the current taxation towards open market-economy standards, withdrawing the hand of the government and replacing all kinds of implicit taxes and subsidies with direct taxation (WB, 2005; Djalalov, 2007). However, looking at the effects that the current fiscal setting has on the economy, this recommendation seems more linked to transparency pressures rather than an effective welfare gain¹⁸. The following part of the paper will scrutinise the macro implications of cotton distortions, through its impact on endogenous dynamics related to rural production, food-security, labour, industrialization, trade, and energetic-environmental constraints.

5.1. The macro variables

In order to exhaustively analyse the implication of taxation of cotton in Uzbekistan, it is important to consider the exogenous macroeconomic variables that influenced the world trade market of cotton. In fact, the sector has experienced a long-term decline in prices that along with the global economic slowdown, price volatility and competition from synthetic products has deteriorated its commercial value (Djanibekov, 2010; ADB, 2013). In addition, the major competitors, notably the United States, the European Union and China, give considerable domestic support to their cotton sectors exacerbating the decline of world prices. In general, although world prices for cotton peaked in 2003-2004 and 2007-2008 boosting Uzbekistan revenue, in the last ten years the revenue generated by cotton has declined, passing from over 20% in 1992 to collapse below 2% at the end of the same decades, in coincidence with an increased relevance of other cash-exports such as gold and gas (Rosemberg et al., 1999)¹⁹. Notwithstanding, the high prices of cotton and gold in the last ten years have caused an increased accumulation of foreign currency. From the interviews made, respondent A emphasises that “cotton is our stream (main source) of hard currency and in a situation of scarcity of capital, the investment selection must be efficient and effective”. In this regard, the centralised export system, by cutting off private trading, has minimised the private use of dollars and made possible for the GoU to have a monopolised access to the bulk of foreign

¹⁸ Rosenberg et al. (1999) argued that 30% of implicit subsidy on imported capital due to appreciates interest rate is compensated by capital good purchase which is not credited under VAT.

¹⁹ In this respect, Kandyoti argues that “the implicit assumption that the development of down-stream industries in the textile or garment sectors – that might benefit the economy as a whole – will automatically improve the conditions of cotton growers must be evaluated in light of the fact that their sales will continue to be influenced by global cotton prices regardless of the domestic or international destination of their crop” (2007:3).

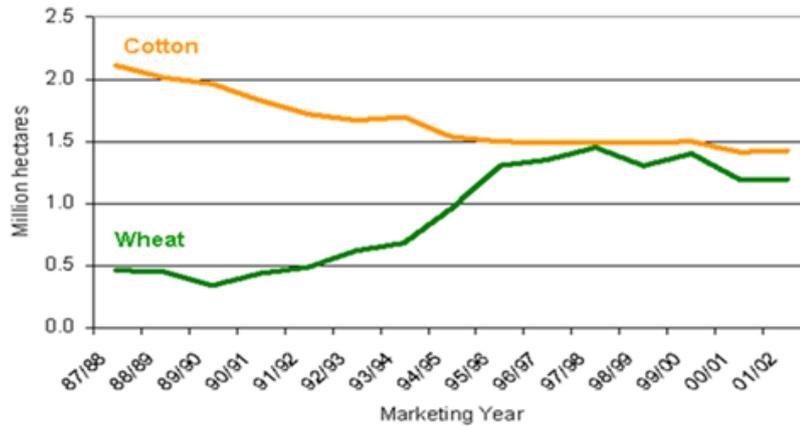
currency. As a consequence, the current account balance surplus relieved²⁰ the economy from dispersive use of assets, allowing the “central agent” to strategically identify the most effective productive investments. The argument in favour of privatization needs therefore to be tested towards the pragmatic and feasible typologies of productive investments available, and not towards random created channel prone to benefit of disconnected and jeopardised capital goods imports.

5.2 The structural endogenous variables

The Cotton-Grain trade-off

As argued earlier, implicit taxation and public intervention have been seen by neoclassical theorists as a cause of productivity loss for agriculture. In this paragraph we are going to test this argument through one of the main distortive and invasive interventions of the GoU of the last decades, namely its strategy of grain cultivation increases. In fact, grain sovereignty was set-up as a state priority since early 1990s, aiming at diversifying the system of monoculture and also in response to the urge for food security of the high growth population. In particular, between 1990 and 2003, there was a shift of 0.6 million hectares of land from cotton to grain. As showed in Figure 4, in a decade, acreage dedicated to grain increased by threefold at detriment of cotton. In particular, wheat production increased from 4% in 1995 to 37% in 2003.

²⁰ current account surplus of +3.1 % (WB,2013)

Figure 4: Estimated Area of Cotton and Wheat

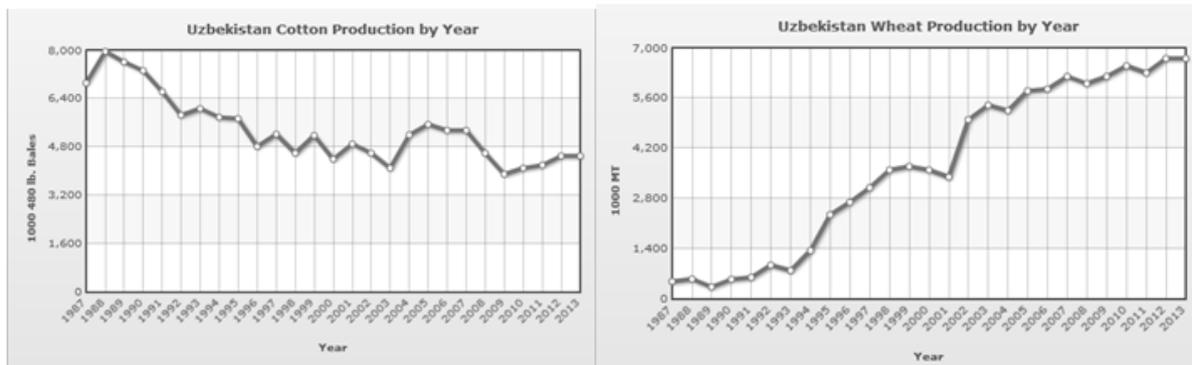
Source: USDA, 2002

The Government's objective of grain sovereignty was achieved in 2000 when the country started to import only 2% of its consumption (Spechler, 2008). As evidence of such driven reorientation, in 1995 the cotton SP showed an extraction equal to 12% of the GDP whereas grain SP was even higher²¹. With such a sharp shift, it has been estimated that Uzbekistan lost USD500 for every hectare of cotton diverted to grain²². In 2000, the extra 100,000 hectares shifted into wheat production have cost the country around USD 50 million in hard currency. However, this loss was offset by an estimated savings of USD 450 million from reduced wheat imports (ibid, WB, 2013). Nevertheless, in 2013 Figure 5 shows that cotton output got stabilised at around 4.5 million tons, from which we can infer that the productivity gain offset the reduced acreage. In fact, the GoU increasingly relieved pressure on cotton procurement, declaring that in 2003 the effects of taxation were almost abolished²³.

²¹ exact data unavailable.

²² In the FSU the procurement prices for cotton was 37 times higher than for grain and one third above the international price. This resulted in a high revenue for cotton producers, disincentivised to leave rural areas for the cities (Khan, 2007).

²³ The new tax code foresees a corporate income tax of 10 per cent zero-rate VAT applied to sales of cotton fibre (FAO, 2011)

Figure 5: Cotton vs. Wheat production by year: 1987-2013

Source: USDA, 2013

Considering that data shows that GoU re-invests only 6-10% of the surplus in the sector (ADB, 2013; WB, 2003) this affirmation is taken with caution. However, it is observable that WB and ADB have granted loans for crop rotation, irrigation and soil improvement to supplement such investments deficiency, arguably obtained thanks to the country's atypical geo-political status. Although advocating for a more open economy²⁴, international observers cannot deny that such a crop-shift has contributed to avoid budget deficit, to keep input prices, including food, relatively affordable and inelastic, which had fundamental effects to keep wages and relative inflation down (i.e. Lewis model) and ultimately reduce the risks of food insecurity. Ultimately, it can be argued that such strategy, by decreasing cotton fields and by prioritizing grain self-sufficiency contributes to conclude that GoU is still exploiting cotton taxation as surplus creator, but at the same time is relying increasingly less on the sector as leading source of growth.

The implications for rural labour

After 2008, simultaneously with the stabilization of cropping shift from cotton to grain, it is observable that the number of people employed in agriculture has decreased. Workforces in agriculture passed from 44% in 1993 to 25% in 2012 confirming a changing composition of employment towards other sectors, especially services²⁵ (Figure 6), whereas between 2001 and 2005 agricultural output grew 41%.

²⁴ Import tariff are the highest in the region at 16.6% (WB,2013)

²⁵ The 1990s registered a fall in agricultural employment of 207,000 people each year

Figure 6: National employment by sector 2005-2011

National employment composition (2005-2011) in thousands ppl.							
Year	2005	2006	2007	2008	2009	2010	2011
Agriculture	2968.6	2935.9	2930.1	3036.6	3078.2	3127.5	3247.3
Industry	1347.5	1,402.4	1,445.5	1,486.7	1,513.1	1,539.6	1,563.5
Construction	848.6	876.6	909.7	944.3	1008.6	1065.1	1093.4
Services	5027.2	5252.1	5450.1	5567.8	5728.1	5896.2	6014.9

Source: Uzbek Ministry of Macroeconomics and Statistics, 2012

One of the reasons can be the fact that cotton is a labour intensive crop²⁶, and its labour intensity already in mid-1970 was six times higher for the collective farms (*Kolkhoz*) and eleven times for the state farms (*Sovkhoz*) respect to grain crops, creating demand for agricultural labour. However, is widely recognised that its productivity is still below the economy-wide average (\$1,500) and it perpetuates conditions of underemployment in the rural areas (Weeks et al. 2007). Thus, it can be argued that the decline of cotton acreage, contributed to cause labour oversupply. Commenting the shift, EUCAM²⁷ denounced a deliberate de-mechanisation of GoU to compensate for the lack of job opportunities and to reduce the risks of social tensions. However, respondent B observes that, besides all the subjective moral and ethical considerations related to the issue of harvesting phase of cotton in the country “because of the characteristics of the plant, which is very small in Uzbekistan, manual picking is the only way to harvest Uzbek cotton with low trash level, natural white colour and ultimately better quality lint”. Overall, there are many and intersectional arguments and opinions about the future of the cotton sector in Uzbekistan. National agrarian experts advocated and succeeded in pushing towards an increasing crop diversification in the country, in particular towards horticultural and fruits products. On the other hand, one additional option would be to push for an upgrade of the value chain of cotton in favour of a textile industry (Rudenko, 2008). In this Matter Respondent B added that “it is not worth it to upgrade the CVC, because our competitive advantages are weak both with low-quality Chinese cotton and Italian brands.. and petrochemicals for mixed textiles are scarce due to energy constraints”. In addition, although

²⁶ Analysing cotton and labour in Uzbekistan, it cannot be ignored that GoU has used child labour during the picking season. Although International Organization such as ADB, WB and ILO acknowledged an improvement in the minimum age of pickers and openness of the GoU to collaboration and mechanization in the last years, International human rights organization have emphasised the health and safety hazard, other than harm for human development on education achievements. According to the “Cotton Campaign”, the government forces over a million children and adults to pick cotton each autumn. In this picture, old generations respondents from a survey do not see a trade-off between child work and school (Kandyoti, 2003), whereas some studies see the boycott and trade sanctions as a further cause of income decline (Doepke, 2009). International boycott of Uzbek cotton is in place by over 130 western clothing brands which signed the Responsible Sourcing Network’s pledge. These campaigns prompted GoU to divert its supplies to Asian markets such as China, Bangladesh and South Korea. For a review see EJC.com, Cannell (2007).

²⁷ The report says that mechanised harvests fell from 57% in 1990 to 35% in 1993, and stands at roughly less than 20% today.

data on net-productivity and earnings improvement are not clear-cut, based on direct observation and confirmed by WFP survey it can be argued that non-farm occupations such as tourism, transport and construction sector have gained an increasing relevance in the composition of rural employment and as a source of household revenue, but also cannot be denied that livelihood in rural areas is supported also by migrant remittances (from Russia and Kazakhstan mainly), in-kind payment permeated in the informal economy and family and state aid (WFP, 2008) .

Nonetheless, at the micro-level, it is incontestable to argue that the current SP creates pressure on cotton producers. Excerpts from field interviews of other studies report farmers complaining about not having the right to choose what to plant, obliging farmers to secretly sell cotton to neighbouring countries to a better price²⁸ (Spechler, 2008). According to these respondents, output target obligations do not allow any space for more profitable crops, reducing significantly their revenue. For this reason, farmers often divert inputs for the production of more profitable crops such as rice, fruit, and vegetables (ibid; Spoor, 2008). Respondent B confirmed the material squeeze cotton producers are facing, mentioning the “..existence of shadow costs linked to scarcity of inputs, mainly water, diesels and fertilisers.. there is a grey market for tractors, whose owners, treated like gods, ask for overpriced services. Such over-running costs, not covered by GoU, have therefore a negative impact on farmer’s welfare. But even if the government would decide to invest in agriculture, tractors, trucks, pumps and fertiliser, the sector need diesel and energy to enhance productivity²⁹. In fact, the efficiency of the government is low on this matter but at same time investments in industry are slow due to the energy constraint we face”. Related to such considerations, most of the FDI projects in Uzbekistan are on the coal, oil and natural gas extraction (FDImarkets.com; 2014).

Acknowledging the surplus extraction that agriculture and in particular cotton is facing, we will now inquire if it is transferred towards modernization investments.

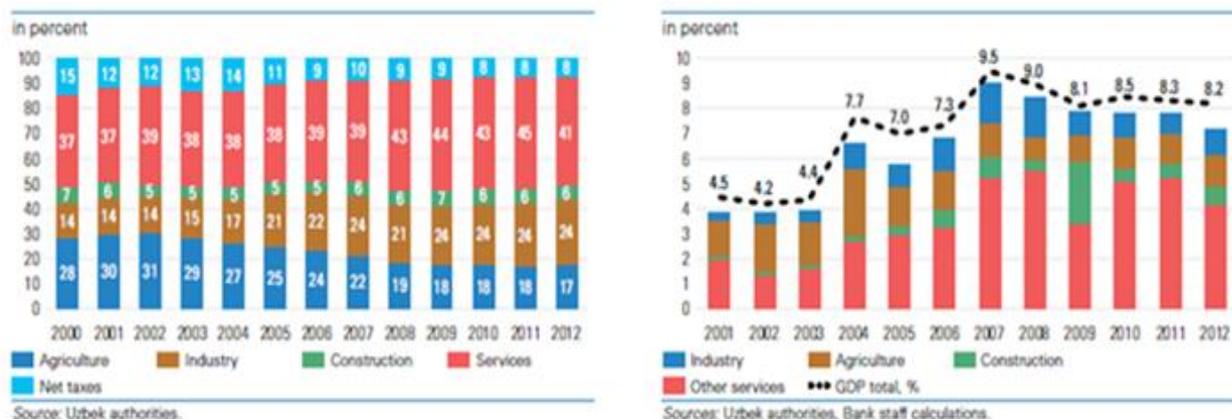
²⁸ USD600 in Tajikistan vs. USD348 in Uzbekistan.

²⁹ 50% of diesel is covered at national level, the rest is imported from Kazakhstan.

The inter-sectorial circular transfer

The decline of agriculture as contributor to GDP, from 28% in 2000 to 17% in 2012, and the parallel increase of industry from 14% to 24% seems to confirm a slow but steady attempt to shift capital efforts towards industrialization (FAO, 2011; WB, 2013-Figure 7).

Figure 7: GDP Structure by Sector & Sectoral Contributions to GDP Growth 2001-2012



Source: WB,2013

In particular, through sectorial growth productivity, Figure 8 shows that GoU is engaged in a wide range of industrial segments:

Figure 8: Productivity rates in 2011 in USD real prices

Sector	(%)
Ferrous metals and metallurgy:	105.75
Non-ferrous metals and metallurgy	102.45
Chemical and Petrochemical	109.45
Automotive and metalworking	110.85
Timber, woodworking and pulp and paper	112.15
Construction materials	110.85
Light Industries	103.95
Food	113.45
Other	115.65

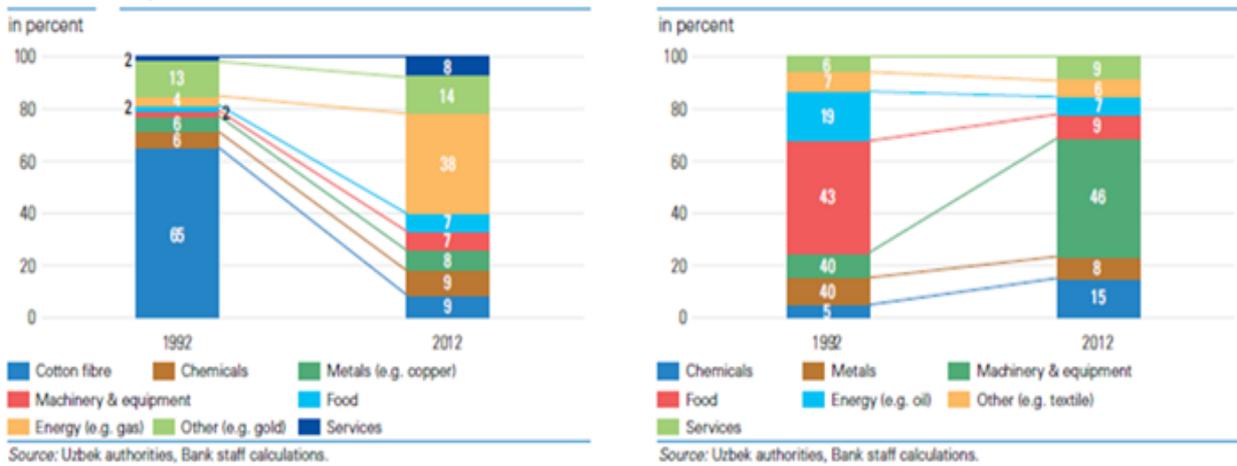
Source: own calculation from data of Ministry of Macroeconomics and Statistics, 2011

ADB also confirmed Uzbekistan's efforts to diversify its production, particularly towards automotive, fuel and light industry (2013)³⁰. For instance, the joint-venture with General Motors, is a signal of the government's awareness of the potential multiplier effects of the automotive industry. Through technological and know-how transfer this can produce significant changes to other sectors (i.e. transport and chemical industry) which will potentially be re-diverted to agriculture as inputs or to upgrade the cotton value chain. In this spirit respondent A observes how "the most highly productive agricultural activities in the world are located in the most industrialised countries".

Looking at the composition of exports over the last decade, we can interpret its dynamic trend as a further evidence of the weakening of cotton as a source of surplus in relative terms. In Figure 9 it can be observed that cotton exports have decreased from 65% in 1992 to 9% in 2012 with a correspondingly sharp increase of gas and gold which currently represent the biggest share of tax revenue (38% of the export in 2013) through excise taxes (42.6% on natural gas in 1996). In parallel, it is noteworthy the sharp increase of machinery-equipment imports, which seems to embody a logic of "selective protectionism". Respondents A underlined that "FerganaAzot and Chirchick Maxam are chemical factories examples of SOEs-joint ventures, linked not just to desultory financial capital inflow, but FDI are source of expertise and technological transfer". Indeed, data shows that public investments towards industry and infrastructure steadily rose by 16.7% in 2012 and 11.3% in 2011 as confirmation of such surplus transfer (ADB, 2013).

³⁰ The automotive and construction material industry, with 1.180.000 and 1.580.000 people employed respectively, are examples of boosters for a crowd-in strategy.

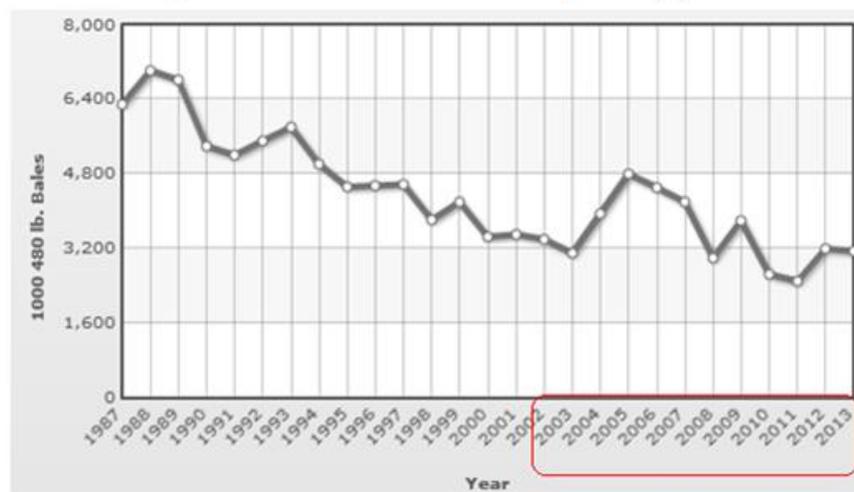
Figure 9: Export & Import structure 1992 – 2012



Source: WB, 2013

Nevertheless, it is remarkable that in absolute terms, over the last ten years, cotton export has fluctuated, but not in a clearly declining trend (Figure 10) but instead at increased value³¹. Such data seem to contradict the adverse incentives to production linked to taxation distortions claimed by the neoclassical theory, and leaves space for wider questions on macroeconomic effects which fall beyond the scope of this paper.

Figure 10: Uzbekistan Cotton Exports by year



Source: USDA, 2013

³¹ It is estimated that there will be a 38% increase in cotton processing as result of expansion of textile sector in 2012 (Responsible Sourcing Network, 2012)

Energy self-sufficiency and environmental constraints

From a declaration of the President in 1994³² (in Jones Luong et al., 2010): “*Until recently, we were forced to import virtually all important oil products, mainly from Russia. But a lot has been done towards achieving energy self-sufficiency in the last two or three years ... [Now we can reduce the amount of] cotton we sell to buy these products. We will sell cotton instead to satisfy people’s needs; we will buy foodstuffs and consumer goods, build new factories and facilities*” (emphasis added). The GoU declared goal of energy self-sufficiency is thus strictly linked to cotton taxation. The 2011-2015 plan “Industrialization Modernization and Infrastructure Development Program” foresees USD47.3 billion investments into manufactory and processed petro-gas, confirming the GoU’s concern about energy constraints to develop the economy. Respondent A, noting that Uzbekistan has the highest gas subsidy allocated in proportion to its GDP in the world³³, emphasises how such a distortion keeps energy prices down, insulating poor households from price shocks. Respondent C confirmed this strategy by emphasising that GoU has raised USD2 billion in loans from WB, ADB and other international financial institutions to finance a USD4 billion Gas-To-Liquid Project³⁴ that will convert gas into diesel. Hence, this “energy independency race” arguably aims at supporting industries’ development, including agriculture, through the provision of fuel for tractors and related technology.

The final factor to mention to complete the analysis around cotton is its intrinsic tension between the economic objectives of productivity, and the limited carrying capacity of the national ecosystem. Many studies have highlighted that, as result of such taxation settings which provide free water supply, the cotton sector is affected by misuse of water³⁵, which fails to reach the cotton fields, worsening soil quality and salinity (Herman, 2007; ADB 2011; WB, 2013). Respondent B noted that although water is subsidised, producers in some cases do not have sufficient access to it, people who can build wells do, and exacerbated by local corruption, inefficient management of resources is widespread. Nevertheless, respondent A noted that “both ADB and WB financed projects on water metering systems, irrigation and water

³² After independence GoU invested through external loans (\$6.6. billion) in energy infrastructure, non-ferrous metallurgy (gold, copper and uranium).

³³ prices to consumer of gas are 0.30Sum.cents per cube/meter, the lowest in the region and fivefold less than export price (IEA, 2013; <http://www.ung.uz/business/tarifs/>)

³⁴ For review see <http://www.investor.uz/?tag=gtl>

³⁵ The 190,000 Km irrigation canals built during the soviet period are still used today and cover 97% per cent of arable land. WB estimates that 60 % of the water are diverted from the rivers that feed the Aral Sea.

management in order to improve the infrastructure efficiency because measures against desertification are costly and would put a huge burden on state budget, but this confirms that GoU is aware of the negative ecological and health effects of cotton cultivation and that is why is working to diversify investments”. Respondents B added that “many farmers successfully switched their plots into fruit, vegetables and cattle, being more profitable than cotton”. However, although these crops are more suitable for the climate, they are not deeply exploited because of the upstream limitations such as lack of storage facilities, marketization, including packaging and transportation, still inadequate for exporting significantly to the world markets (GEF,2010). Yet, the increase in different food products and export would suggest that such desirable diversification is happening and land has been diverted to intensive gardening for fruits. Nevertheless, the instability of commodities prices at the international level and the perpetuating soil degradation is perceived as an additional implicit tax, thus causing diminishing returns on cotton (Guadagni et al., 2005).

Conclusions

The GoU’s political and economic strategy has certainly diverted from the neoliberal recipe. The “Uzbek model” has been blamed for experiencing a deindustrialisation spiral and an over-specialisation in primary resources due to lack of investments and incentives for producers which allegedly resulted in low agricultural productivity rates and missing inter-locking markets (Boffes, 2010; Bock et al., 2011). In addition, authors emphasised that the state monopoly has hampered the direct participation of producers in trade, perpetuating the elite’s vested interests which contrasted competition and fed corruption and thus obstructing the creation of “private capitalists”³⁶. They also argue that such “inconsistent gradualism” is failing to improve market institutions, develop capital markets, defined rule of laws, feeding the fear that such delay for openness would trigger unpredictable political shocks (Pomfret, 1997; Spechler, 2000, 2007). The low elasticity of poverty vis-à-vis national income, by showing that between 2001 and 2005, whereas income increased by 25%, poverty decreased by only 8% would support this thesis (Weeks et al., 2007). Nonetheless, a sectoral squeeze evidence is that, during 2000-2005, while urban poverty decreased from 22.5% to 18.3%, rural poverty

³⁶ “Agriculture is controlled by the ruling elites, who are concerned with pocketing the foreign currency benefits from cotton revenues, maintaining a regional balance and controlling domestic stability” (EUCAM 2011:7)

remained steady at around 30% and households spent almost 70% of their income on food (Weeks et al. 2007). Therefore, if we scan dynamically the whole economic context, it is argued that such a transitory deflection is reasonably attributable to the distortive surplus transfer currently in action. In fact, Taiwan in 1950s, similarly to Uzbekistan, registered growth in labour productivity, but slow per-capita consumption due to the faster growth of population³⁷ with respect to labour (Karshenas, 2004)³⁸. However, despite this sectorial taxation, GoU has fulfilled most of the population's basic needs by keeping public services expenditures high (60% of total expenditure) in health care (5.5% of GDP) and education³⁹ with decline of extreme poverty and low inequality in ten years, meeting the UN Millennium Development Goals objectives (CER, 2013; UNDP report)⁴⁰. Certainly the country faces many obstacles linked to the dependency from commodities prices, long term decrease yields of cotton due to desertification, natural resources dependence, depressed rural market labour and technological lag. Notwithstanding, the alteration of its given comparative advantage through distortive policies and import-substitution, has permitted Uzbekistan to keep favourable output performances on agriculture, steady GDP growth at average 8% over the last year (Rosenberg et al. 1999:3, Weeks, 2007) and eventually avoid the macroeconomic declines observed in other FSU countries right after their independence (as observed by Kandyioti, 2005)⁴¹. Its self-designed industrial policy based on synchronized inter-sectoral transformations proved that the current avoidance of global market integration as one-size-fits-all neoclassical solutions in this occasion has been quite effective. Moreover, policy recommendation has been proved as weak because not based on the local human, natural and technological factors trends conditions on which *ad hoc* growth strategies should be built. Not least, the criticism on taxation as source of sub-optimal investments and disincentive for productivity has been rebutted by the observed scenario of infant industries taking shape in different economic segments. Furthermore, counterfactual risks of this case-study raise several points of discussion that should receive further inquiry. Firstly, analysis should investigate if a reckless push towards cotton market liberalization, removal of subsidies and fragmentation of land, would have created conditions of extreme poverty and malnutrition in rural areas. Secondly, if the lack of a thriving capitalist class to which to sell state assets profitably would have created a “destructive competition”

³⁷ 2.7% in 2011

³⁸ In 2012 private consumption rose by 6% due to public sector wages increase (ADB, 2013)

³⁹ 100% literacy, 95% school enrolment, 6.4% of GDP and 26% of budgetary expenditure (Uzbek Ministry of Macroeconomics and Statistics, UNICEF)

⁴⁰ Gini coefficient: 34.7 in 2010. Percentage of population below poverty line passed from 25.8% to 13.9% between 2005 and 2015(WB,2013)

⁴¹ Uzbekistan has suffered the slowest drop in GDP after independence in comparison with other CIS countries and GDP has remained the steadiest in the sub-region (Pomfret 2007).

(Palley, 2005). Thirdly, considering the high density of rural population, whether privatisation might have led to massive rural unemployment, possibly more socially destabilising than the current underemployment now compensated by informal and barter market. Lastly, if the integration with global capital would have caused large current account deficits as observed in other parts of the developing world.

Uzbekistan, by exemplifying the rejection of pre-packed policy prescriptions, needs now to address further its challenges, namely to bolster the nascent industries by making them competitive in the world market and feed a virtuous circuit of surplus transfer which would create impulses for economies of scale, employment and redistribution effects to agriculture. In conclusion, the results of this analysis would suggest that distortive implicit taxation ultimately can be a vehicle for multi-sectorial cumulative interaction and the state sits in a privileged position to check and balance multidimensional policy scopes.

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