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Past Record and Long-term Options

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Uzbekistan's Development Strategies: Past Record and Long-term Options

by
Giovanni Andrea Cornia¹

Abstract: Uzbekistan became independent in September 1991 following the breakup of the Soviet Union. The country followed an heterodox approach to macroeconomic stabilization and the transition to the market economy which reduced the depth of the transitional recession experienced by most former socialist countries of Eastern Europe and Former Soviet Union. The development strategy it followed between 1995 and 2005 relied mainly on a state-coordinated exploitation of its land, water and mineral resources. Despite sustained growth and some structural transformation, such approach generated a limited number of formal sector jobs due to its high capital-, resource-, and energy- intensity. While poverty declined, the poverty alleviation elasticity of growth remained modest. Two years ago, the country launched the ambitious '*Uzbekistan Vision 2030*' which aims at reaching by that year the status of upper-middle-income country. In this regard, this paper assesses in detail the achievements and limitations of the policy model adopted till 2012 and proposes two alternative development strategies to reach the targets set by the country's authorities for 2030.

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Introduction

Uzbekistan became independent in September 1991 and on 1 July 1994 issued its national currency, the sum. As all countries part of the former Soviet Union (FSU), it went through a difficult transition to the market economy. But thanks to its unorthodox approach to stabilization, during the initial years of the transition, it suffered the smallest transformational recession of all FSU. Since 1996 the economy started recovering, with growth being driven by the exports of primary commodities and a moderate growth of the domestic market protected by high import barriers.

Since 2004, the country recorded considerable progress in terms of GDP growth and – to a lesser extent - poverty reduction. Between 2004 and 2013 GDP growth averaged 8 percent per year, and poverty declined from 26 percent to 18 percent. Since 2004 growth has been driven by exports of commodities (gold, gas, cotton, fruits), industrial goods (oil products, chemicals, metals, cars, processed food, and textiles) and more recently services and migrant remittances. The structure of production shifted from agriculture to industry and services. Prudent macro-management, favorable terms of trade and limited integration with the global financial system made Uzbekistan's economy resilient to the sub-prime and European sovereign debt crises of 2008-9 and 2010-13.

Despite this remarkable progress, the Uzbek economy faces a number of challenges to reach in a sustainable way the ambitious objectives set by the Government Plan '*Vision 2030*' i.e. to become an upper middle-income country with an income per capita of 15.000 \$. This objective requires an annual GDP growth rate of 8.7 % for the next 16 years. Such a goal has been reached so far only by the East Asian Tigers in the 1960s-1980s, China over the 1990-2010 and some oil producing countries, and is far higher than the growth achieved by the USA during its 'golden age' of 1870-1914.

Reaching this objective requires articulating a multi-objective development strategy which builds on the recent success, corrects past mistakes, and weighs carefully the benefits and costs of greater integration in the global economy. Increased globalization permits to benefit from the growth stimuli emanating from the world economy but entails the exposure to rapidly spreading contagion and the vagaries of the global business cycle which - in the end – is heavily influenced by the real economy and financial stability of the main growth poles.

To help the discussion on *Vision 2030* the paper first reviews the achievements and obstacles encountered by Uzbekistan during its first 23 years of existence. It then considers what factors could make the achievement of *Vision 2030* more difficult. Thirdly, it reviews three successful strategies in terms of GDP growth and other development targets, i.e. the East Asian Miracle of the 1960s-1970s, the Chinese approach of 1990-2010, and the Latin American progressive new structuralist approach of 2002-2013. Finally, it suggests two alternatives development strategies.

1. Development record of the first 22 years of independence

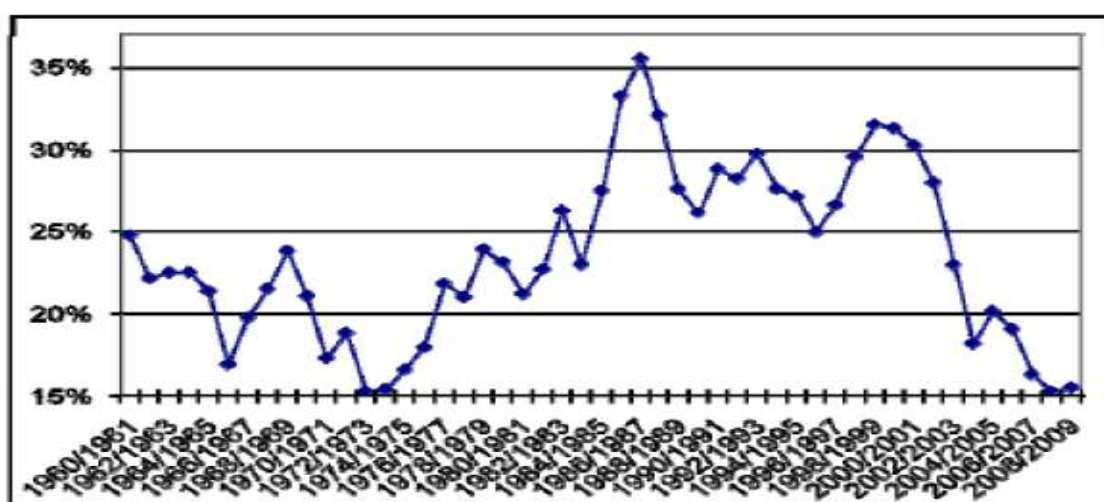
1.1. Methodology: goals to gauge the success of development strategies.

How can we evaluate the development record of a country? The debate in this area has evolved markedly during the last 60 years. During the first three and a half decades of the post World War II period the main goal of development was 'GDP growth' as a greater availability of resources was reasonably expected to solve most development problems, particularly in countries affected by

severe resource scarcity. However, the structuralist school (Celso Furtado in particular) argued that GDP growth was no guarantee of long term development unless it was accompanied by a transformation of the economic structure away from the ‘backward’ sector’ (subsistence agriculture, crafts and informal urban service) and towards the ‘modern sector’ (manufacturing and modern services). The same principle applied to the change in the composition of exports which in all poor countries were dominated by agricultural and mining products.

At a later stage, some of the desirable key structural transformations included – where feasible - greater self-reliance in the areas of food and energy. The decline of world food production and stocks-to-use ratio recorded in the 1960s/1970s (which reached emergency proportions in 1973 and again in 2009 – see Figure 1), recurrent food crises and food price spikes encouraged policy makers to place greater emphasis than before on food self-sufficiency and food-security.

Figure 1. Stocks-to-Use Ratio for Total Grains in the World (1960-2009)



Source: author’s elaboration on FAOSTAT

In turn, the two oil shocks of 1973 and 1978 highlighted the need for energy conservation – i.e. reducing energy consumption per unit of output - and achieving greater energy self-sufficiency.

For long, a pro-growth macroeconomic policy was not seen as a prerequisite for development. The neoclassical paradigm posits for instance that sound macro indicators (low output gap, inflation, twin deficits, and public debt/GDP) are preconditions for achieving private-sector-led growth, which depends on the stocks of labor, physical capital, human capital and technology on which macroeconomics has no influence. In this sense, the macro-economy is ‘growth neutral’. This view conflicts with the development-oriented structuralist macroeconomics (Bresser Pereira 2011, Cornia 2014a) which emphasizes the role of public investments, competitive exchange rates, low dependence on foreign savings, active credit policy and so on to stimulate long-term growth and stir the allocation of resources towards specific sectors. A famous proposition by Amsden-Rodrik-Wade went as far as stressing the importance of ‘getting the prices wrong’ by means of macro signals – so as to promote an industrial policy capable of moving the economy along the chosen path.

Since the 1980s the development debate began emphasizing the importance of the ‘human development’ (HD) goal in which GDP growth per capita is both an objective and an instrument to reach a number of human goals, such as reducing poverty, infant mortality and so on. The ‘capabilities approach’ (Sen 1985) provided the theoretical basis to a family of HD indexes used for planning and monitoring the achievement of HD, and for the elaboration of the 1990- 2015 MDG strategy.

Conscious of the inability to reach such objectives in a world affected by growing environmental problems (that retard growth and the achievement of HD), the UN and academic community later on introduced the objective of 'sustainable human development', in which greater emphasis is placed on the environmental effects of past-current growth and on measures to minimize its negative environmental effects and to reverse the environmental damage already accumulated.

The recent debate on post-2015 development strategies (Alonso et al. 2013) argues that two additional goals ought to be included among the post-2015 development objectives. The first is the achievement of a high level of employment in 'decent jobs'. Indeed, even a rapid and environmentally friendly GDP growth may not generate enough jobs, as observed in periods of 'jobless growth' in countries with a dominant capital-intensive sector. The second new post-2015 goal is an acceptable level of asset and income inequality (with Gini's of final incomes in the 32 -38 range). There are several reasons for this. The first is that – for any level of GDP/c – lower inequality reduces poverty – the first MDG target - more rapidly. In addition, high inequality has been shown to depress future growth because of its impact on macroeconomic stability, investments, human capital formation, incentives, crime rates, and social cohesion.

Finally, many argue that democracy, social participation and a solid 'social compact' (Luiz 2014) are prerequisites of development, because of their instrumental role in improving social stability, and social mobility and in reducing inequality. As suggested by Robinson (2010), if political power is concentrated in the hands of the elites, the political system tends to adopt un-equalizing policies. In contrast, genuine democracy, greater participation and a consolidation of democracy reduce the concentration of power and facilitate the transition towards non-clientelistic policies. However, the definition and measurement of democracy are still in their infancy, and there are arguments put forward in favor of 'benevolent autocratic regimes' (as that of Lee Kwan Yu in Singapore) which presided over fast growth with low inequality. Furthermore, democratic institutions may lead to instability in countries with high ethno-linguistic fractionalization and low levels of education.

Summing up, it is necessary to assess the development record of countries by means of the following indicators, which we use also in assessing Uzbekistan's recent development record:

- (i) an acceptable growth of GDP and GDP/capita,
- (ii) progress in terms of food- and energy self-sufficiency,
- (iii) evolution of the economic structure towards innovative manufacturing and modern services,
- (iv) stable development-oriented macroeconomic policies,
- (v) an acceptable environmental sustainability,
- (vi) adequate employment creation, to absorb into 'decent jobs' the existing underemployment and the new future entrants in the labor force,
- (vii) a socially acceptable level of income inequality - which combined with rapid labor-intensive growth – ensures a faster decline of poverty than observed during the last decade.

1.2 The development record of Uzbekistan 1991-2013

(i) GDP growth: The Uzbek model permitted to minimize the loss of output during the transformational recession, to recover in 1996 and grow rapidly since 2004 because of high commodity prices and a rapid increase in the production of food, gas, cars, fruit and mineral ores.

(ii) Food and energy self-sufficiency. Since the transition, Uzbekistan managed to carry out three important structural shifts. First, during Soviet times much of the land was assigned to the culture of cotton. With the transition, greater emphasis was placed on food self-sufficiency, a farsighted decision in view of the increase in world food prices of 2008-11. To this end, the state procurement system decreased the share of land allocated to cotton and raised that allocated to wheat. As a result, the share of food in imports fell from 43 to 10%, achieving in this way food self-sufficiency (Kotz, 2005).

A similar objective was achieved in the energy sector. During the Soviet period Uzbekistan imported about 60 percent of its petroleum. Yet, with the successful drilling (done without any FDI) of new gas and oil fields which had lain undeveloped in Soviet times, by 1995 the country became self-sufficient and later on a net energy exporter. This choice did not comply with the suggestion to aim at an optimal allocation of resources based on comparative advantages. But was fully justified by the risk of changes in the relative world prices of food-oil versus cotton, high transport costs, and the inability to ensure such risk.

(iii) Structure of production. Since 1991, the structure of production evolved rapidly and so did the structure of exports. As shown in Table 1, there was a fall in the share of agricultural value added (V.A.) and an increase that of mining and services. At the same time, however, there was a continuous decline of manufacturing initiated with the closure of inefficient large vertically-or-horizontally integrated factories inherited from the Soviet era. This process was particularly marked in sectors making a large use of energy and raw materials which were underpriced during the socialist era.

Table 1. Share of value added of the various sectors, 1987-2010

	Agriculture	Mining, Utilities and Construction	Manufacturing	Public and Private Services
1987	27.6	10.3	28.0	34.1
1994	37.4	12.2	14.2	36.2
2000	34.4	13.7	9.4	42.5
2004	30.8	15.7	10.2	43.3
2010	19.5	26.4	9.0	45.1

Source: WDI

While the closure of economically inefficient and environmentally polluting firms was a rational decision, the country did not (understandably) put fully in place a new diversified manufacturing sector, especially in remote regions. Indeed, the development of new labor-intensive manufacturing sectors progressed slowly – and will need to continue in the years ahead to reduce the risk of ‘re-primarization of the economy’ and to create formal sector jobs for a still large number of under-employed people and the 3.9 million workers expected to enter the labor force between now and 2030 (see later). The success recorded in some sectors (e.g. textile and automotive²) will thus have to be replicated in other semi-skilled/skilled labor-intensive manufacturing and services sectors. A second reason for further diversifying the structure of the economy away from the ‘new primary sector’³ is that its exports are historically affected by the greater instability of world demand and prices. Admittedly, the development of a new labor intensive manufacturing with low-medium

² After independence, the auto industry was created from scratch behind high tariff walls in joint ventures between the Government and Daewoo, GM and Isuzu. In 2013 the sector produced 274,000 cars, half of which were exported.

³ The change in export structure occurred mainly within the primary sector. Between 1992 and 2012 the share of cotton in total exports fell from 65% to 9%, whereas the share of fuel and oil products increased from 4 to 38%, that of machinery and equipment rose from 2 to 7%, and the share of chemical products from 6 to 9%. As for imports, the share of food fell from 43 to 10%, whereas that of machinery and equipment increased from 10 to 46%.

capital-per worker ratios has been limited (Table 2) and is likely to take a few more decades. One of the usual reasons for a slow development of manufacturing are insufficient savings and capital accumulation. This is not, however, the case of Uzbekistan which has an overall medium investment rate of about 23-26 percent (World Bank 2014) fully financed with domestic savings. Much of this investment, however, is allocated to the capital-intensive oil-mining-chemical sector. This policy generated good results in terms of balance of payments and growth, but not in terms of employment, and would require either a very large increase in the investment rate or the allocation of new investments to more labor-intensive manufacturing and services.

Table 2. Structure of industrial output at current prices, % of total industry 1991 and 2011

	1991	2011	difference
Electric energy	2.7	8.0	+ 5.3
Fuel	3.7	17.5	+ 13.7
Steel	0.8	2.6	+ 1.8
Non-ferrous metals	9.7	10.4	+ 0.7
Chemical and petrochemical	4.0	5.5	+ 1.5
Machinery and equipment	11.6	16.1	+ 4.5
Wood, pulp and paper	1.6	1.1	- 0.5
Construction materials	4.3	5.3	+ 1.0
Light Industry	39.8	13.5	- 26.3
Food	14.8	14.0	- 0.8
Other	7.1	6.1	- 1.0
Total Industry	100.0	100.0	

Source: Popov (2013) on State Committee on Statistics of Uzbekistan (<http://www.stat.uz/en/>)

(iv) Macroeconomic stability has been achieved for many years. Uzbek macro policy relied on a gradualistic heterodox approach (CER-UNDP 2005) – rather than on the ‘big-bang’ price, trade and financial liberalization recommended by the International Financial Institutions. After the unavoidable hyperinflation of 1991-1995 (which according to EBRD reached 1568% in 1994), the country removed only gradually price controls on key items. Such approach led to a slower decline of inflation which in any case fell to some 12-14 percent by 2012 (lower according to government estimates). Current inflation is about the same and remains driven by regulated tariff increases aimed at cost recovery, exchange rate depreciation, and demand pressures stemming from general government spending. For the years ahead, gradually reducing inflation is likely to be a priority. Yet, the ‘stable and competitive real exchange rate’ (SCRER) adopted lately does not anchor imported inflation, and the reduction of price rises thus requires to keep in place prudent monetary and fiscal policies, while attacking structural inflation by means of microeconomic interventions.

Fiscal policy has been prudent throughout Uzbekistan’s short history. During Soviet times, the country received non reimbursable credits from the Union budget equal to 31% of the revenue of the republican budget (CER-UNDP 2005). Between 1997-2001, the budget deficit declined to a tolerable 1-3% of GDP and since 2002 it recorded a surplus while the public debt/GDP ratio fell at a low level (World Bank 2014). Achieving fiscal balance was primarily due to the state’s ability to collect taxes (if at times with rather unorthodox methods) and, later on to windfall profits from the export sector. This favorable fiscal performance generated a considerable ‘fiscal space’ (taking the form of the stabilization Fund for Reconstruction and Development, or FRD) which allows to adopt countercyclical fiscal measures (such as the recent state-led modernization investment program) on occasion of external shocks. The draft 2014 budget envisages for instance a deficit of 1 percent of GDP to support economic expansion.

The exchange rate policy evolved dramatically from the days of appreciated multiple exchange rates that discriminated against the cotton sector and provided a huge implicit subsidy (16% of GDP) to the infant industry importing capital goods (Zettelmeyer 1998). Since 2003 such ISI-type

regime (not uncommon during the early phases of development) was abandoned in favor of a managed exchange rates of the SCRR type which as in Latin America in the 2000s replaced the supposedly superior 'two corner solutions' (fixed peg or free float). Considerable theoretical and empirical evidence supports such choice for middle-size export-oriented economies (Polterovich and Popov 2004, Rodrik 2008, Frenkel 2012). This policy shift and the softening of forex surrender requirements stimulated export and helped equalizing incentives between exporters and importers. The remaining controls in accessing foreign exchange, however, still feed a parallel market where dollars cost around 20% more than at the official rate. Thanks also to high commodity prices and the persistence of controls on non-essential imports, the new regime generated - despite rapid imports of capital and semi-finished goods - a persistent current account surplus and a surge in international reserves (that in 2012 were estimated at \$40 billion).

Finally a policy of limited and prudent opening of the capital account and strong regulation of the domestic banking sector reduced the dependence on foreign savings, and minimized the impact of the global financial crisis of 2008-2013. The banking sector remains stable, well capitalized, and highly liquid, though banks are still burdened with non-banking functions (e.g. tax collection). In addition, financial deepening is progressing at a slow pace while favoring in particular state or state-sponsored enterprises. Thus, many firms remain *de facto* excluded from access to credit, particularly in the poorest and most remote regions, a fact that definitely retards growth and the diversification of the economy. In 2008 for instance in the poor Kaskadarya region only less than a fifth of existing firms received bank loans while bank coverage was thin (Cornia and Marnie 2008). In recent time monetary policy has been accommodative, though the administrative (rationing) approach to control inflation still leads to unexpected shortages of cash for small businesses and households. Supported by directed lending and strong domestic activity, in 2013 the growth of credit to the economy stayed at 30 percent year-on-year, but favored mainly large enterprises while bypassing smaller entities.

(v) environmental sustainability. To deliver a rapid GDP growth, Uzbekistan has relied significantly on its natural resources, notably land, energy and water. Though falling, the energy intensity of GDP is still very high due to a decaying energy infrastructure and domestic energy prices below long-run supply costs (UNDP 2014a). Water efficiency is similarly low. Aside from the environmental consequences of desertification and salinization, water scarcity is becoming a binding constraint to growth. And public health is also starting to be affected, as water supply dries up during the summer. The authorities are aware of all this, and are have started adjusting the Uzbek growth model to ensure social and environmental sustainability but problems remain.

(vi) employment creation. Uzbekistan is a country with a considerable labor surplus which is expected to persist over the next two decades (see later). The unemployment rate (ILO methodology) has always been low and is now 5 percent (IMF 2013), i.e. low by international standards. Yet, the real problem is under-employment at low wages. Under-employment can take the form of part-time or full-time work at low intensity. Low wages can be caused by low-productivity jobs (because of lack of skills or capital), intense competition among job seekers for few available jobs, or low prices for the goods produced. Much of the underemployment is to be found in the informal sector, the output share of which in 2005 was at least 20-25 per cent of GDP while that of informal employment was around a third.

While moving in the right direction the transformation of the economic structure has not been able to absorb into 'decent employment' unemployed and underemployed workers. The underlying causes of this hidden labor surplus are (a) a low female participation in the labor force, (b) the backlog of underemployed workers and the only slowly decreasing number of entrant in the labor force, (c) the allocation of an important part of investments to sectors with high capital per worker, such as oil, gas, gold and copper mining (d) the low productivity of capital, due in part to the Soviet legacy of poor maintenance and high energy use, and the physical characteristics of the nation.

In addition, structural reforms introduced in the early 2000s aggravated the underemployment problem. As noted by Khan (2007) with the second wave of the land reform of 2001-2007, 85 percent of the country's sown area was transferred through administrative procedures to private commercial farms with a modal size of 30-50 ha, while the labor-intensive *dehkans* (farmers' individual plots) were assigned 12 percent of the sown area. In creating large commercial farms (supposedly run by the best farmers), the policy maker created commercial units with a size 200 times larger than that of the average labor-intensive *dhekan* relying mostly on family work. This meant that only 1 of 14 rural households receive land, while the remaining 13 had to subsist on parcels of 0.1-0.2 hectares or migrate.

Such preference for commercial farms was driven by the distrust of *dhekan*'s capacity to modernize agriculture and deliver the 'wheat revolution'. Such distrust originated in the belief - typical of Soviet times - that large farms (and firms) are the only ones that can realize economies of scale in production and be easily controllable by the state procurement system (for wheat and cotton) to deliver the wheat revolution and permit an easy surplus extraction to finance the ISI strategy.

Yet, this approach sharply reduced labor absorption in agriculture. Khan (2007) reported estimates of the Ministry of Agriculture according to which commercial farmers employed 36 percent fewer workers per hectare than *shirkats* (i.e. Soviet cooperatives), while Khan himself estimated that commercial farms absorbed per ha a mere 12 percent of the labor employed in *dehkans*. Official data also show that while labor productivity per worker was higher in private farms, output per hectare was higher in *dhekans*. The emphasis placed on private commercial farms generated in a few years a large increase in land concentration, and a large rural labor surplus which migrated to urban areas seeking jobs in both the formal and informal labor markets or *mardikors* (McKinley et al 2005) as rural labor, street vendors, small service providers and construction workers.

Another effect of the land reform of the 2000s was a rapid rise in international migration. The World Bank 2011 Migration and Remittances Factbook places the number of Uzbek migrants at 1.955 million in 2011 - while the World Bank (2014) estimates that in the early 2010s migrant remittances accounted for 6.5% of GDP (other estimates place such figure at up to 13 percent). For many, migration is unlikely to stop even if domestic growth accelerates in the years ahead. Without a major shift in industrial structure, international migration is likely to continue in the future including because of a persistently high wage differential and porous borders, and because of the seemingly unstoppable demographic crisis of the Russian Federation (the main destination of Uzbek migrants) where the resident population has dropped by some 4.5 million between 1994 and 2012 (Transmonee 2013) despite the return of ethnic Russians from Central Asia and the Caucasus⁴. According to the Russian Federal State Statistics Service's middle demographic scenario, between 2008 and 2025 Russia's working-age population may shrink by 14 million. Even discounting possible increases in labor productivity, this decrease will result in labor shortages that would hamper Russia's economic growth. In this respect, anti-immigrant sentiments and the current quota system are counterproductive (Anichkova, 2012) and are likely to be circumvented in practice.

In Uzbekistan, this sudden outmigration alleviated the unemployment and underemployment problem, while strengthening the balance of payments and reducing poverty. Migrant remittances are now of one Uzbekistan's main forex earner, ahead of gas, cotton, cars, and horticultural products. The Russian Central Bank indicated that in 2012 remittances sent from Russia to Uzbekistan totaled \$ 5.7 billion, up 32.6 percent over 2011 while, according to Uzbek's state statistics, in 2012 gas and other energy exports earned the country \$5.03 billion and cotton \$1.25 billion. This figure is likely to be an underestimate of the actual value of remittances as it does not

⁴ The Russian population decline reached its lowest point in 2011. In 2012 the population rose by some 170.000 unit.

include goods or cash carried home by migrants, nor remittances from Kazakhstan and other destinations. From time to time the Uzbek authorities try to discourage their citizens heading to work to CIS countries and emphasize the need to create jobs at home for the youth. Despite a high volume of remittances, the social side effects of unregulated migration – for children, families, and communities – are quite troubling. Up to a third of migrants report working illegally, while up to two-thirds are working without a contract and therefore employment rights. In addition, migrants with secondary or tertiary education often end up working in manual labor, and subsequently deskilled. Despite all this, with Uzbekistan's economy dependent on migrant remittances and jobs in Russia so dependent on foreign labor, it seems unlikely that migration will level off any time soon.

In conclusion, even assuming no return of Uzbek workers from abroad, the low-ish employment elasticity of the present pattern of growth will make it unlikely that Uzbekistan's projected 8.7 percent GDP growth will absorb into formal sector jobs the new entrants and the existing underemployed-unemployed. This objective may be more easily reached if reforms aim raising the employment intensity of growth, by shifting public investment and credit policies in favor of labor-intensive industries, increase the flexibility of labor and product markets, and expand SMEs.

(vii) poverty and inequality. With a large contraction in income per capita and adverse distributive changes, over 1991-5 poverty rose up to 75 percent, to decline to 44.5 percent in 1994-5. With the recovery of 1996 the incidence of poverty fell and by 2001 it reached 27 percent (CER- UNDP, 2005). Analyses for 2001 (*ibid.*) showed that the poverty rise was driven not only by the implosion of GDP but also by an increase in income inequality (see next).

The 2001 Household Income Survey identified the main correlates of poverty. Much of poverty (70%) and extreme poverty (72%) were found to be primarily a rural phenomenon. Rural poverty did not depend on access to land, which was then equally distributed, but rather on land quality. As noted above, with the un-equalizing land reform of 2002-7, access to the land became an important determinant of rural poverty and outmigration. In both rural and urban areas, poverty was significantly greater in families with a high number of children, low activity rates in the formal sector, and low quality jobs. Large regional variations compounded the problem, as the poverty incidence varied from 13.3 percent in Tashkent to 47.4 in Surkhandarya. Finally, unlike in many developing countries, the level of education of the head of the household was not a main predictor of poverty. Only households whose head had tertiary education experienced lower poverty.

As for the last 13 years, data from national authorities suggest that the incidence of (nationally defined) poverty fell from 27 to 15 percent over 2000-2012. This decline was due to sustained rises of salaries and remittances, incomes from small businesses, and targeted support programs. Despite this praiseworthy result, the poverty reduction elasticity of GDP growth remained low (around 0.55, as opposed to an average of around 2). Thus, the poverty decline was due to the 'quantity' rather than the 'quality' of growth. Also in 2012, the incidence poverty is associated with low agricultural productivity, high labor informality, high dependency ratios, persistent or growing regional inequality (World Bank 2014) and – presumably – growing skilled/unskilled wage differentials.

As noted, inequality rose sharply during the first ten years. During the turbulent years 1991-95, the overall Gini coefficient rose from 0.26 to 0.31. During the ISI-led recovery and macro reforms of 1996-2001 (liberalization of prices and labor market, banking and credit, social insurance and assistance, and privatization), inequality grew at a faster pace, suggesting that the pattern of ISI-led growth was un-equalizing. The inequality of the distribution of gross income reached its maximum in 1997 (with a Gini of 0.421). By 2000 Gini fell to 0.389 (but if account is taken of the under-sampling of the rich and income under-reporting it was in the vicinity of 0.46-0.50 (CER-UNDP 2005).

Such rise in overall inequality was explained by: (a) an un-equalizing change in the structure of households incomes, away from low-inequality transfers and wages and towards high-inequality profits, rents, and incomes from the sale of agricultural products; (b) rising wage inequality. With the liberalization of wage scales there was a rapid increase in wage inequality as signaled by the fall of low-skilled wages and rise of skilled-ones (for computer specialists, accountants, bankers, etc.). As a result, the Gini of the wage distribution rose from 0.263 to 0.421 in 2001. Wage dispersion increased also across industries, even after controlling for skill level. Wages rose in sectors such as energy, petrochemicals, mining, metallurgy, transport and finance, while they fell in sectors depending on the state budgets, trade and agriculture. The regional wage gap also increased from 1.4 in 1991 to 2.8 in 2000. Regions with low relative wages were those with a large share of agricultural activities like Andijan and Namangan while those with high wages –Tashkent city and Navoiy - were those with a greater concentration of industrial activities; (c) a gradual fall of the pensions replacement rate, i.e. the ratio of the pension to the last earnings.

To the best of our knowledge, the trend in the Gini coefficient for the last 13 years remains undocumented. The few available data differ substantially: WDI gives a Gini of 36.7 for 2003, WIID a value of 39.7 for 2005, and Transmonee (2013) shows a rise from 32.9 in 2001 to 36.4 in 2006. The World Bank (2014) quotes national data suggesting that the Gini index fell from 0.465 in 2006 to 0.341 in 2010 and 0.30 in 2012, a change which is un-plausible, has few parallels in economic history, and may be due to changes in questionnaire design, sample size, income under-reporting and so on. It is thus difficult to identify empirically a trend in the Gini index since 2001. Given that, hereafter follow a few speculative arguments on changes that may have influenced income inequality during the last decade. To start with, the land reform of 2002-2007 raised land concentration; the rise in migrant remittances is generally un-equalizing (IMF 2005) though there are examples (e.g. Mexico and El Salvador) where they were equalizing (Cornia 2014b); the rapid growth of the last ten years has been driven by highly capital-intensive sectors which employ relatively few high wage skilled workers – whose supply has remained comparatively modest (see later); growth has been concentrated in spatial terms thus feeding regional inequality, as in the prior decade; not all surplus labor migrated, and part of it has been absorbed at low wages in the informal sector. In contrast, changes that were likely equalizing include the growth acceleration since 2004 that absorbed workers into the labor force and policy measures (transfers to the poor and public employment). Finally, a strong clue that inequality remained high in the 2000s is given by the low value (0.53) of the poverty alleviation elasticity of growth (see above).

2. Factors that might make the achievement of *Vision 2030* more problematic

2.1 Domestic factors

(i) Population growth and urbanization. Uzbekistan is the most populous republic of Central Asia. This dominance will be reinforced during the next 15 years. In 2013 the country had a population of 29.3 million, growing by 450.000 units a year (Transmonee 2013) and is expected to reach 40.5 million in 2050 (CCA 2003), as the current birth rate of 20.4 per thousand is projected to fall only gradually. More than 56% of the population is under 25 years of age and this proportion is likely to increase for several more years before starting to decline. This population dynamics derives from: (a) a fall in total fertility rate from 4.07 in 1991 to 2.36 in 2005 which rebounded to 2.60 during the last 4 years, thanks to improved living conditions; (b) the ensuing decline in population growth from a sizeable 2.7 per cent in 1989 to 1.5 in 2003, and 1.8 in 2010 (Transmonee 2013). The number of annual births rebounded to 630.000 in 2012, up from 512.000 in 2001. Thus, although the birth rate is expected to fall, the momentum created by its recent growth will have a major impact on the future size of the population and labor force. If current trends continue, Uzbekistan's labor force will increase by 3.9 million people by 2030 (World Bank 2014).

According to the World Bank's WDI, in 2013 only 36 percent of the population resided in urban areas, though half of it lived in sub-standard housing (UN-Habitat, 2009). In addition, while several of its charming cities are rich in history, art and tradition, Uzbekistan's substantial urban (and rural) water, gas, electricity and transport infrastructure is still characterized by the inefficiencies inherited from the Soviet era, while little maintenance and new investment have taken place since the transition. The water, gas and electrical infrastructure are ill-equipped to deal with the growing number of people that will migrate to the urban areas during the next several decades.

Rural-urban migration – and the still sizeable natural growth of the urban population – will likely bring along advantages in terms of economies of scale and agglomeration, easier transfer of technology and tacit knowledge within and between sectors, and a reduction in the marginal costs of supplying good-quality public services. The development of cities will also help the creation of substantial and easily reachable consumption markets. In addition, with the exception of the Chinese Town and Village Enterprises, the spread of manufacturing has generally taken place in parallel with the development of urban or peri-urban areas. The question is how to take advantage of these structural shifts, while avoiding the spread of shantytowns. Good infrastructural links between domestic and international markets, and the creation of industrial parks for firms and SMEs to develop and share ideas are all measures that can help make cities a main engine of growth. Thus, the above trends in population growth, structure and urbanization need to be accompanied by supportive public policies. Summing up:

- the expected increase of the labor force should raise the 'potential growth rate of GDP' and will – *ceteris paribus* - help containing the rise of real wages, especially for low skilled workers, a fact that should facilitate growth. This 'demographic dividend' benefitted South East Asia in the 1960s and 1970s (Bloom and Williamson 1998) but to enjoy this advantage Uzbekistan obviously needs to create a sufficient number of jobs, better human capital and new infrastructure,
- at the same time the drop in dependency rates (expected to contract from 52 percent in 2010 to 46 percent in 2030), will raise GDP and family income per capita more rapidly than GDP,
- together with the rise of GDP/c, a sustained rise of the population will broaden the size of the domestic consumption market to 'buy Uzbek goods and services' particularly for goods with high transport costs per unit of value – thus partially reducing the dependence on export markets for the sale of the domestic output,
- especially if accompanied by the development of appropriate road and communication infrastructure, urbanization will raise economic efficiency and help firms to benefit from economies of scale and agglomeration and from technological diffusion,

At the same time, population growth and rapid urbanization will:

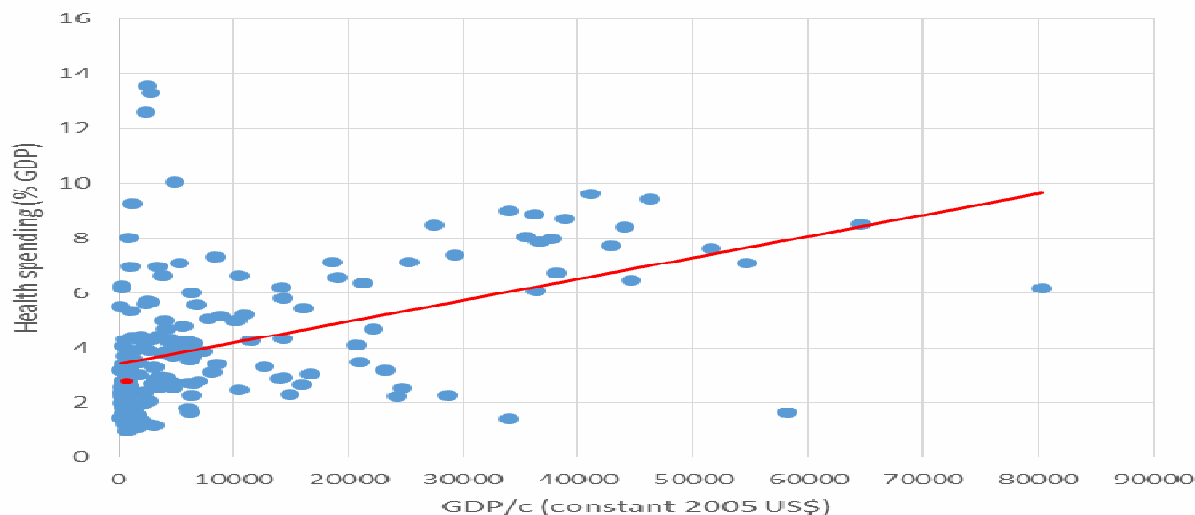
- exert a further pressure on an already scarce natural resource base, water in particular. If left unaddressed, such pressure will exacerbate the environmental problems discussed below,
- continue putting pressure on public services in the field of health and education. Urbanization will also require a large increase in public and private investment in housing, transport, water, gas and electricity networks and measures to prevent urban congestion and pollution.

(ii) the need for accelerating human resource development. The industrial policy needed for the development of the country requires a sustained improvement in the quality of the labor force.

While Uzbekistan avoided ‘the transition mortality crisis’⁵, since Independence life expectancy first stagnated – and then rose more slowly than in other low-middle income countries. During the last years the government allocated to public health 2.5 percent of GDP (Figure 2), down from 3.7% in 1996 (Transmonee 2013). In theory, all citizens are entitled to almost free health care, but in reality this is far from true, and the WHO’s European Health Report 2009 states that in 2006 around 50 % of total health spending was financed with ‘out of pocket’ outlays by health care users.

Figure 2. Uzbekistan Public Health Expenditure/GDP ratio (red dot) in relation to its GDP/c (in 2005 US \$) compared with that of countries at various levels of development, (early 2010s).

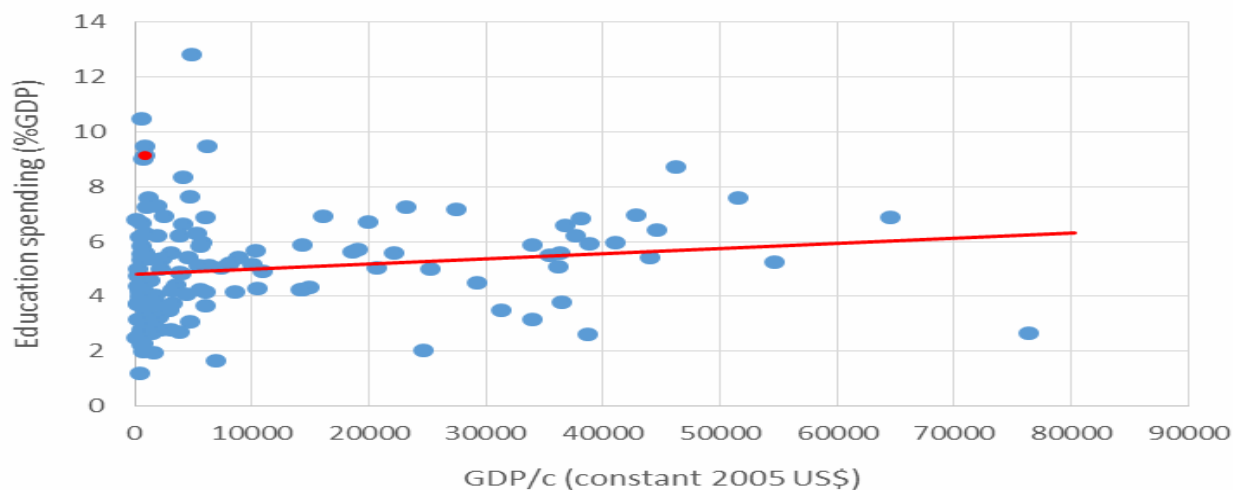
Source:



Source: author’s elaboration on WDI

Despite a sizeable allocation of public funds to education (Figure 3) there is a need to further upgrade standards and improve the allocation of funds among educational institutions. Despite the difficulties of the transition, the country managed to sustain enrolment rates of close to 100% for classes 1-9. In contrast, enrolments for 16-18 year olds (upper secondary) fell in the 1990s to reach a low of 33 percent in 2006/7.

Figure 3. Uzbekistan Public Expenditure on Education/GDP ratio (red dot) in relation to GDP/c (in 2005 US\$) compared with that of countries at various levels of development, (early 2010s)



⁵ In the Russian Federation, male life expectancy at birth fell from 64.2 in 1989 to 58.6 in 2003, i.e. lower than in India.

The problems faced in 2007 were well summarized by a *mahalla* head as follows:

“In our mahalla, there are many poor families, therefore children do not go to school, but go to earn money instead. Children do all kinds of work. They help with petty trade, clean, sweep..... After classes he goes to work, and after work he is exhausted and has no desire to do his homework. Therefore, children from poor families do not enter colleges or lyceums, but work. I think 40% of children work. Some children dropped out of school before they had completed the 9th grade, some dropped out after the same. Children from poor families cannot study in lyceums and colleges because they need clothes, money for food, pocket money and so on. They cannot afford that.”

Source: Mahalla leader of Kashkadarya. (Tahlil, 2007) Rapid Assessment of Informal Employment of Children in Urban and Rural Areas of Uzbekistan, UNICEF.

Since 2007 the educational system recovered in line with the expansion of vocational colleges, and the gradual introduction of 12 year obligatory schooling. With a rise in their number, 6 times more pupils now study in vocational schools than in 2001. Yet the problems encountered in 2007 might not have gone completely away. In 2012 net enrolment rates in primary education was 89 percent (WDI). In any case, in primary and secondary education, the problem is not so much access, but the differences in the quality of physical infrastructure and education received by children from different income groups and different areas. For instance, in the poor Kaskadarya region, of 95 schools, 36 had no water, 18 were in an emergency state, and most schools had no heating in winter (Tahlil 2007). While things improved since then, several problems remain unaddressed.

The situation for pre-primary education (now generally considered essential) is less satisfactory. Pre-school enrolment has always been low, and currently circa 25% of the pre-school age children is covered (WDI) for the country as a whole, though this rate reaches 51.3% in Tashkent city. As for tertiary education, the numbers of attending students has fallen, due to the increase in costs and introduction of fee-paying system for some of the students. This will not help private and public firms in procuring those skills complementary to new investments in manufacturing and services needed to promote growth and diversify economic structure.

(iii) History, location and infrastructure. Uzbekistan is strategically located in Central Asia on the ancient Silk Road linking Europe, Western Asia, Central Asia and China. As in the past, this location offers important trade advantages. In particular, the country (the largest and most diversified economy in Central Asia) could become a main suppliers of labor-intensive consumer goods to other Central Asian countries and part of the Russian Federation (which already absorbs *inter alia* most of the country’s valuable horticultural products). In the longer term, the *direct* export of labor to the Russian Federation and Kazakhstan could be replaced by *indirect* exports of labor-intensive goods and services (including tourism) to these countries.

Yet, in the modern era, this ‘locational advantage’ is hampered by several obstacles. To start with, though the road and rail infrastructure inherited from the Soviet era is fairly developed in relation to GDP/c and to the fact that 80 % of the country is occupied by deserts, it needs to be modernized to cope with modern trade needs, particularly to better connect it with China whose trade with Central Asia has grown to levels similar to those of the Russian Federation. Government investments financed by the RDF and international initiatives (ADB 2013) are expected to improve transport infrastructure and to contribute to GDP growth by reducing the time and cost to reach markets by 40 percent (World Bank 2014). Upgrading the country’s infrastructure will also help improving connectivity between most Uzbekistan’s regions and promote growth – as cross-country evidence shows that high quality infrastructure is correlated with reduced spatial inequality (*ibid*). Second, large investments are needed in the country’s logistic, ITC, storage, marketing and trade

procedures. The example of Chile's exports of large amounts of horticultural and fish products to distant Europe is an example of how efficient marketing/management systems allow profitable trade with distant lands. Finally, Uzbekistan faces high transit costs which depend only in part on the country's road infrastructure and its double landlocked and semi-desertic nature. These intangible costs continue to impede the export of labor-intensive manufacturing and services (like tourism) that can boost job creation (UNDP 2014a). For instance, slow/arbitrary custom procedures offer ample opportunity for 'informal payments' to corrupt officials. Reforms to border management systems can address many non-tariff barriers to trade, reducing delays and transaction costs, and help increasing foreign direct investment.

(iv) Environmental limits to growth. Environmental problems may emerge as a severe constraint to growth. Deserts and quasi-deserts cover more than 80 % of Uzbekistan (UNDP 2014). Arable land used for irrigated agriculture represents only 10% of the territory, while the remaining 10% is occupied by rain-fed lands used for orchards and (often overgrazed) pastures. An unsustainable management of land and water resources is threatening rural livelihoods, hindering efforts to guarantee supply of safe drinking water, and threatening long run food security⁶. At the moment, the water losses of the on-farm irrigation systems are 48% of total water supply while another 20% is lost in primary and secondary canals (*ibid.*). Due to obsolete pumps and on-farm infrastructure, large areas of productive land no longer receive water. Such inefficient water practices contribute to land salinity, reduced land and water productivity, and the depletion of water reserves to cover the future demand due to population growth, urbanization, and development of new manufacturing-service industries. Water scarcity is exacerbated by increases in evaporation due to climate warming, and low water availability (which cuts water flow by 40%) during increasingly more frequent water-scarce years (*ibid.*). Thus, inefficiencies in water management, climate change and trends in water demand and supply will make water shortages increasingly more severe in the future, to the point that the productive sectors may not be able to count on enough water, especially in rural areas. Finally, such unsustainable water use has led to the drying up of the Aral Sea, which – despite some modest improvement since 2008 - has impacted all aspects of human life (including health) in all Central Asia, most acutely so in Uzbekistan.

UNDP (2014) suggests that large savings could be made through modernization of the pumping system which, if coupled with introduction of water fee at cost-recovery level, could significantly reduce losses and improve efficiency. The Government has already taken actions toward this, including the promotion of less water-intensive crops (e.g. horticulture), repairs of irrigation infrastructure, introduction of integrated water resource management approaches. Yet, all this will require considerable (mostly public) investments. Furthermore, a well-grounded national 'water strategy' is in order to ensure consistency between conservation measures and water demands by various sectors of the economy.

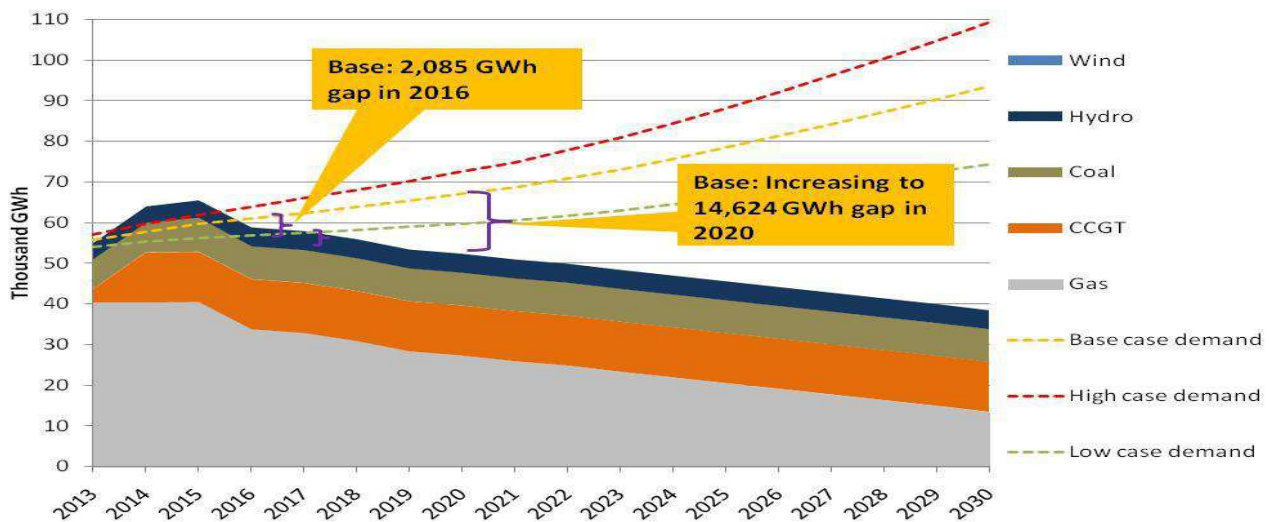
Energy demand is expected to rise rapidly over 2015-2030 (Figure 4) due to population growth, the transition to an industrial-service economy and the projected rise of income/capita, especially for a demanding upper class with a high income/c. High income concentration will likely raise energy demand, which is a 'superior good'. On the positive side, it must be noted that energy intensity per unit of GDP has fallen by 70% between 1990 and 2012 (UNDP 2014). Despite this truly remarkable gain, Uzbekistan's average energy use per unit of GDP is still among the highest in the world, as much of GDP originates from energy-intensive industries. As the production of most electricity and heating is based on burning fossil fuels, the energy sector remains a major emitter of CO₂.

As for the future, the World Bank (2013) projects a growing energy deficit, conditional on future decisions in terms of overall growth pattern. Natural gas is currently the main source of domestic

⁶ Yields of cotton, rice and maize declined over 1980-2005 and may continue to do so due to growing salinization and climate change (*ibid.*).

energy supply, and Uzbekistan exports significant amounts of it. The country's reserves of natural gas are expected to dwindle over the next 30 years, but new fields (e.g. in the Ustyurt region) are being explored, if at a high capital cost. But there are also plans to diversify energy sources (towards coal, wind, solar, and hydro) to enable more export of gas. However, replacing gas with coal will significantly increase greenhouse gas emissions and pollution. Given the country's location unleashing a production boom in solar power may be a win-win long-term solution.

Figure 4. Projected supply and demand of energy in Uzbekistan, 2013-2030



Source: World Bank (2013)

However, investments in new sources of energy will require significant investments in updating technology and equipment. If these are not made, there will have to be either a reduction of natural gas exports or an increase in energy imports. Overall, it is estimated that the energy sector will require around US\$5 bn by 2020 in addition to the US\$3.5 bn that have already been secured. These large investments cannot be met only by the national budget, and financing options have to be explored. China (15 \$ bn) and Lukoil (6 bn \$) are considering large investments in gas (EUI 2014)

(v) Dependence on primary commodities and the risk of ‘Dutch Disease’. Uzbekistan recent growth has depended to a good extent on its ability to become energy self sufficient and, later on, a net exporter of energy and metals the price of which surged during the 2000s and remains fairly high. The country has thus benefitted from a large inflows of forex including from migrant remittances. The country has so far managed quite well the potential negative macro effects of these large dollar inflows – in particular a possible appreciation of the real exchange rate and loss of competitiveness for non-primary tradable goods. The creation of an offshore FRD where are parked some 13 bn dollars has helped. The country has also adopted a competitive exchange rate regimes which generates incentives for all exporters. Yet, the theoretical and empirical literature on Dutch Disease and ‘curse of natural resources’ suggests that long term growth in countries benefitting from export bonanzas, large inflows of remittances, portfolio flows and aid money may suffer from slow growth through a variety of macroeconomic mechanisms and conflicts for the control of ‘point resources’.

The historical experience of Chile, Botswana, Norway and other countries, however, shows how this problem can be avoided and how the forex influx can create the basis for sustainable long term growth. As for Uzbekistan, the overall efficient macroeconomic policies followed so far should be sustained. Second, the rents from exhaustible resources need to be ‘transformed’ in long-lasting resources by investing them in manufacturing, infrastructure, human capital, institutions and

environment protection - to ensure the transition of the economy towards a clean, innovation-driven sustainable development. Third, the management of these resources should adhere to criteria of equity both for the current generation (as done in Chile) and in terms of intra-generational equity (as done in Norway). Fourth, it should be aware that - as many contemporary examples show - the use of resource rents to the benefit of elites alone would likely destabilize the economy and social order.

(vi) **a slowly fading Soviet legacy in the fields of business and governance.** Quite understandably, the Uzbek economy still resents from the long standing influence of the ‘command economy’ and ‘control mentality’ which dominated the country between the mid 1920s and the mid 1990s. Changing institutions, bureaucracies and mindsets takes time. In view of this, the authorities have already made considerable progress in simplifying the public administration and creating a pro-business and pro-private-sector climate, particularly in terms of starting a business and enforcing contracts (World Bank 2014). But much more needs to be done in other areas, starting with trading across borders (see above), providing credit to SME (see later), obtaining business permits, protecting investors and allowing freedom of trade. At the moment, the investment climate remains cumbersome, and the overall score of ‘doing business’ is only 146 (out of 189 countries). Important governance improvements are needed also in the delivery of public services (health and education in particular) where *de facto* price barriers (e.g. illicit payments in hospitals) or organizational problems (the drive towards the privatization of universities) tend to discriminate against the low-income people.

2.2 Possible global problems emanating in the future from the international economy

As for all countries, Uzbekistan’s future development depends on the evolution of the international economic system, and on how countries adjust to the ongoing ‘globalization of policy approaches’. Since 2000, the dominant development mantra has focused on the achievement of MDGs and, later on, ‘sustainable (human and environmental) development’. Such laudable objectives were, however, to be achieved (through social-and-aid policies) in a context of increasingly liberalized domestic and global markets, including for all types of financial transactions, without – at the same time - establishing those national-global arrangements needed to prevent crises, control global contagion, and compensate ‘innocent bystanders’ from shocks for which they carried no responsibility⁷. Table 3 offers an overview of recent policy changes in the field of trade liberalization, trade integration, capital account liberalization and domestic financial liberalization.

Both economic theory and history suggest that trade integration (not necessarily outright import and export liberalization) generated in many cases important ‘gains from trade’ for all partners. But there are other well-studied cases in which these gains were distributed in a highly asymmetric way, both domestically and internationally. There is also an ample literature showing that trade liberalization generated an increase in domestic inequality (Kojanou Golberg and Pavcnik, 2007). In turn, the loosening of domestic banking and financial regulations in the 1980s and 1990s allowed creating off-balance-sheet and shadow financial institutions not subject to central bank supervision which increased leverage and caused a long series of banking crises. Meanwhile, while presented by many as ‘a golden opportunity’ for increasing the saving and investment rate, the liberalization of international financial flows has been shown to raise the instability of the real exchange rate, GDP volatility and the frequency of financial crises (Prasad, et al. 2003) without increasing private consumption. There were however exceptions, as Latin America during the 2000s. Indeed, the

⁷ The tripling of IMF resources in 2008-9 was a positive but insufficient step to deal with these problems.

Table 3. Trends in policies towards trade and financial liberalization

Regions	1982-90	1991-97	1998-2002	2002-10
Average import tariff*				
South America	40.0	19.0	12.2	10.6
Sub-Saharan Africa	26.7	24.9	14.5	13.2
MENA	29.7	21.9	17.3	16.2
South Asia	62.9	52.9	20.8	14.9
East and South East Asia	20.3	16.7	7.6	6.9
Asian economies in transition/1	44.5	38.9	15.5	12.6
EE-FSU	.....	11.0	9.0	6.0
- of which Uzbekistan	.....	...	10.6	11.4
Advanced economies	8.5	7.1	3.3	4.2
Trade/GDP ratio**				
South America	38.8	45.3	45.3	57.1
Sub-Saharan Africa	66.9	68.3	73.9	79.3
MENA	64.1	68.1	62.9	78.7
South Asia	33.6	41.9	44.9	46.1
East and South East Asia	114.1	128.6	153.3	163.0
Asian economies in transition/1	29.5	58.1	75.2	106.0
EE-FSU	73.0	91.4	98.6	104.7
- of which Uzbekistan	...	62.7	48.8	71.0
Advanced economies	60.6	62.3	74.1	77.5
Kaopen Index of Capital Account Openness***				
South America	-0.78	-0.17	0.76	1.00
Sub-Saharan Africa	-0.91	-0.82	-0.59	-0.56
MENA	-0.64	-0.35	0.02	0.36
South Asia	-1.29	-0.74	-0.93	-0.90
East and South East Asia	0.85	0.96	0.50	0.57
Asian economies in transition/1	-1.75	-1.31	-1.05	-0.58
EE-FSU	-1.84	-0.53	0.01	0.65
- of which Uzbekistan	.....	-0.81	-1.51	-1.16
Advanced economies	0.83	1.89	2.28	2.32
Index of Domestic Financial Liberalization*				
South America	5.1	6.8	6.9	7.7
Sub-Saharan Africa	4.5	5.1	6.6	7.4
MENA	3.6	4.6	5.8	6.5
South Asia	4.7	5.6	6.4	7.4
East and South East Asia	5.9	6.9	6.6	8.2
Asian economies in transition/1	0.0	2.0	4.6	8.0
EE-FSU	0.5	3.2	7.4	8.7
- of which Uzbekistan	n.a.	n.a	n..a	n.a
Advanced economies	7.6	8.2	8.6	8.8

Source: Cornia (2014a) based on the sources indicate therein: *Economic Freedom Dataset (2011), WDI for Uzbekistan (simple period average for all products) ** World Development Indicators (2011), ***Chinn and Ito (2011). Notes: KAOPEN index is a positive function of the openness. The Index of Domestic Financial Liberalization ranges from 0-10 where 10 corresponds to high degree of liberalization. 1/ China, Vietnam, Laos and Cambodia.

region – which had suffered from many financial crises in the 1980s and 1990s - adopted domestic banking reforms - such as enhanced capitalization, funding and supervision of their banking systems; the development of local capital markets; stricter prudential regulation of financial systems; enhanced risk-assessment mechanisms in large banks; and the adoption of appropriate legal, judicial and accounting frameworks. They also assigned a broader role to state banks in financing economic activity during crises (Rojas Suarez 2010).

In brief, an ideological (rather than pragmatic) pursuit of liberalization-globalization hampered the achievement of sustainable human development due to slower growth, increased instability and inequality, a severe food crisis, and little progress in solving a long standing global and local environmental crisis.

As a result of all these changes, over the last 6-7 years the achievement of growth, MDGs, poverty reduction and environmental and social objectives were threatened by a ‘quadruple crisis’ the solution of which requires a major shift in development thinking. These four crises concern:

(i) the most immediate problem derives from the global financial crisis which originated in the USA, spread to Europe and later on affected many developing countries. Countries like Uzbekistan that were only modestly integrated financially were less affected directly, but suffered indirectly from the slowdown of the real economy and imports of their trading partners. In 2009, an unprecedented global fiscal stimulus of 8.4 trillion US\$ and the easing of monetary policy prevented a severe recession to turn into another Great Depression, but these policies cannot be sustained forever. In addition, little progress was recorded in establishing a new model of financial regulation capable of reducing the risk of new crises. Other financial crises may thus erupt in the future, including in China where the Central Bank controls capital inflows but has problems in regulating its domestic shadow banks.

(ii) the second interconnected crisis concerns the worsening of income inequality since the 1980s. While Latin America and some African countries with an egalitarian land distribution (such as Ethiopia and Malawi) reduced income inequality over 2002-2012, three decades of liberalization and globalization led to a fairly general increase in income inequality (Table 4).

Table 4. Trend in the Gini coefficient of the distribution of household disposable income per capita, 1980-2000 and 2000-2010.

	OECD	European Transition Economies	Asian Transition Econ.	Latin America	MENA	South East Asia	South Asia	Sub-Saharan Africa	World
A. 1980s (starting from earlier available year) and 1990s									
Specific period for each region	1980-2001	1990-1998	1980-2000	1980-2002	1980-2000	1980-1995	1980-2000	1980-1995	
Rising inequality	14	24	2	14	2	5	3	9	73 (69%)
No change	1	0	1	1	3	0	0	2	8 (8%)
Falling inequality	6	0	0	3	3	2	2	8	24 (23%)
Total	21	24	3	18	8	7	5	19	105 (100%)
2000-2010 (or latest available year)									
Specific period for each region	2000-2010	1998-2010	2000 – 2009	2002-2010	2000-2007	1995-2009	2000-2010	1995-2007	
Rising inequality	9	13	2	2	4	3	4	7	44 (41%)
No change	4	5	1	1	0	0	1	1	13 (12%)
Falling inequality	8	6	0	15	4	4	0	13	50 (47%)
Total	21	24	3	18	8	7	5	21	107 (100%)

Source: Cornia (2014a)

The inequality crisis predates the food, climate and financial crises and may have, indeed, contributed to their eruption via the adoption of unsustainable consumption patterns, over-borrowing by an impoverished middle class and growing asset concentration. While several factors (including technology) contributed to the surge of inequality, the latest literature suggests that an unfettered approach to liberalization was a main cause of the inequality increase. In turn, the latter affected the achievement of MDGs over the short term, and may affect growth performance over the medium term. There is therefore a need to identify an inequality-sensitive development model that facilitates poverty reduction and the achievement of sustainable development;

(iii) the third, longer term, but already evident, crisis concerns climate change and environmental degradation, a problem severely felt in Uzbekistan. The world recession of 2009 reduced emissions by 3 percent but, in the absence of a clear shift to a low-carbon/low-chemical inputs model, the GDP recovery of 2010-13 raised again emissions - thus exacerbating the need for (costly) mitigation measures and adaptation policies to prevent additional damage. While material growth is desirable, especially in low-income countries, given the present pattern of energy use, there is a trade-off between growth and ecological balance. Here too, the search for new models of sustainable growth is in order (especially in Uzbekistan), both for itself and for continuing the drive towards sustainable development. At the moment, however, some of the new approaches being experimented to reduce emissions (e.g. bio-fuels) may in fact reduce food availability;

(iv) the fourth crisis concerns food production and hunger. The trend towards lower food prices which prevailed during the last thirty years is likely to be due to underinvestment in agriculture, a decline in the world farmed surface, and the use of land for bio-fuels production. In turn, the recent upsurge in food prices was affected by financial speculation on food futures, underlying the interconnectedness of the four crises. While waiting for a rise of investment in agriculture and measures to control higher food prices, an increase in domestic food subsidies and food aid may be unavoidable if an increase in hunger and malnutrition is to be avoided.

Because of its unorthodox policies, Uzbekistan escaped the 1st and 4th crises, but has been hit by the environmental and inequality crises which may retard future growth and reduce human welfare.

2.3 Global trends and downside risks specific to Uzbekistan.

The country followed so far prudent policies which insulated it from financial contagion originating from the US and Euro zone crises (see above). Yet, in the future also Uzbekistan may be hit indirectly by such crises via a drop of demand and world prices for Uzbek exports. The IMF (2013) estimates that a 10 percent drop in the world price of gold, copper and oil would result in a deterioration of the current account by one percent of GDP and of the fiscal balance by 0.7 percent. Greater diversification of exports by commodity groups and countries of destination thus seems in order to minimize such risk in the future. Furthermore, a continuation of financial problems may affect directly Uzbekistan as foreign capital (which the country may eventually have to borrow) may become less abundant and costlier.

Even in the absence of further global financial crises, other real and banking crises, or other shocks emanating from Uzbekistan's three main partners, i.e. the Russian Federation, Kazakhstan and – increasingly – China would seriously affect the country. For instance, a change in immigration policies in the Russian Federation and Kazakhstan may generate large negative income and balance of payments effects and lead to a greater than planned devaluation of the sum, as remittances from these two countries account for over 7 percent of Uzbek GDP. Likewise problems emanating from the shadow banking sector of China may reduce energy exports and inward FDIs.

A repeat of the global food price shock of 2008-9 and 2011 may in turn stop the hoped-for decline in food prices, put additional pressure on inflation, affect most the poor, and demand greater public outlays to help them. Finally, risks related to regional crises may also affect economic activity in Uzbekistan. Election cycles in the region, instability in Afghanistan and the Near East, and tensions related to regional water disputes raise concerns about potential social unrests and instability.

Should any of these risks materialize, the authorities can use the existing considerable 'fiscal space' and currency reserves to counter the negative effects of these global spillovers. An expansionary monetary policy could also be of help (for a few years), while the growing size of the domestic market in the years ahead may absorb part of the exportables. It is thus realistic to presume that the economy will continue to expand, if at a slower rate than in the past decade for another 2-3 years, hoping that in the meantime the problems that triggered such problems will be solved.

3. Can the design of development strategies needed to achieve *Uzbekistan Vision 2030* benefit from the positive experience of other regions?

Not all developing and transitional economies have been equally affected by the above four crises or by previous crises. There is a need therefore to learn from their experiences and to analyze the policies they followed in the financial, inequality, climate change and food security areas. Hereafter follows a brief illustration of the policies followed in three successful regional experiences analyzed in a comparative perspective (Table 5) by Cornia and Uvalic (2013).

3.1 The East Asian Miracle (EAM) of the 1960s-1970s.

As noted above, the pragmatic EAM model shares some features with the policies adopted since the mid 2000s in Uzbekistan. The EAM model evolved under authoritarian regimes which promoted a "shared growth" approach and could therefore count on the support of the middle and lower classes. Its success depended in part on the competence of the bureaucracy and the creation of institutions to ease the coordination problems among firms and between them and the state. Johnson (1982) argued that the EAM success was due to the combination of some of the best features of both the capitalist and socialist systems, and avoidance of the major weaknesses of each. After two decades of ISI, trade protection and overvalued currencies, public policy shifted around in the mid-1960s when governments devalued the nominal exchange rate, targeted a competitive real exchange rate, subsidized selective exports, asked protected firms to export a quota of their output, and established general trading companies to promote exports of SMEs (World Bank 1993). At a later stage, import tariffs were gradually reduced to an average 5 per cent, except for goods competing with domestic production. As a result, the share of the EAM countries in world manufacturing exports rose from 1.5 per cent in 1965 to 5.3 per cent in 1980. During this period, the capital account was broadly closed. In spite of this, capital accumulation was very rapid thanks to a high domestic savings and a policy of "financial restraint".

Monetary policy targeted an inflation rate of 5-10 per cent, low but positive real interest rates on deposits, deposits insurance and limits to the maximum interest rate on loans (*ibid.*). Governments maintained a tight control of the banking system, actively mobilized domestic savings and channeled credit on a preferential basis to key industries. The fiscal and monetary stance aimed at ensuring macro stability and avoiding the accumulation of public debt. Budget deficits rarely exceeded 2 per cent and seignorage 1-2 per cent of GDP. In the early years, the governments imposed steep wealth taxes, but later avoided placing too heavy a tax burden on firms. A key feature of the EAM model was a selective industrial policy focusing on "picking the winners" (steel, shipbuilding, etc.) and supporting them by means of high tariffs, preferential credit, investments in research and infrastructure, imports of technology and pro-FDI incentives. While

industrial policy can cause efficiency problems, the EAM countries limited the costs and duration of such interventions and withdrew their support when firms did not reach the agreed output and export targets (*ibid.*). As there were no major environmental concerns, public policy did not adopt specific measures in this area.

Table 5. Comparison between economic, social and environmental outcomes of 6 development strategies*

Policy area	Index	Measure	East Asian Miracle (1960s-70s)	Latin America WC (1981-2002)	Eastern Europe (2000-10)	Chinese model (1990-2010)	Indian model (1990-2010)	Latin America LAPP (2002-10)
Fiscal performance	Budget deficit/GDP	Period average	-0.2^b	-3.8	-3.1	-2	-7.6	-1.1
Current account balance	CA/GDP	Period average	.....	-3.8	-5.5	3.6	-1	-1.2
Foreign Debt	Stock of foreign debt/GNI	Period average	40	76.5	70.5	13.6	23.1	44.4
		Yearly variation	1.22	0.55	5.22	-0.31	-0.52	-4.85
Growth performance	GDP Growth c)	Yearly % change	9.1	2.4	4	9.9	6.5	4.5
Income inequality	Gini Index	Period average	32.3	50.3	29.8	37.1	33.1	51.8
		Yearly variation	-0.34	0.22	0.19	0.87	0.26	-0.57
Human capital formation	Years of education (people 25+)	Period average	4.84	5.82	10.92	6.39	3.63	7.25
		Yearly variation	0.11	0.1	0.05	0.13	0.07	0.1
Structural Transformation	Industry VA/ % of GDP	Period average	29.7	31.7	31.6	46	26.9	31.5
		Yearly variation	0.89	-0.03	-0.44	0.27	-0.03	0.04
Resilience to shocks	Years of GDP growth <0 / n years	Ratio (%)	3.5	22.2	11.6	0	0	8.7
	Mean drop when GDP growth < 0	Period average	-2.79	-3.79	-7.72	0	0	3.03
Environmental impact	C02 emissions/GDP(Kg/1 million \$, mkt exchange rates)		0.74	0.66	2.1	3.58	2.49	0.67
Food security	Calories per capita/day	Period average	2660	2469	3140	2834	2296	2599
	Protein per capita/day	Period average	70.4	65.1	91.7	80.9	55.2	70.7

Source: Cornia and Uvalic (2013). Note: *the Latin American ISI model 1960-1980 was omitted due to lack of space.

At the beginning of their experiment, both Taiwan and South Korea enacted equalizing land reforms and promoted the development of rural infrastructure, thus broadening the domestic market for simple manufactured goods. Labor policies emphasized the creation of new jobs rather than wage increases, while the achievement of a true full employment reduced the pressure to introduce social insurance which remained underdeveloped. For instance, in South Korea unemployment insurance was introduced only after the 1997 crisis. Social benefits were modest as families (women in particular) were assigned the role of main welfare providers. Meanwhile, full

employment and fast and egalitarian GDP growth reduced poverty and the need for anti-poverty transfers. All EAM countries allocated considerable resources to human capital formation, in particular secondary and higher education in science and technology. As a result, the number of scientists per 100,000 people reached levels 3-5 times higher than those of other countries with similar GDP/capita.

Though some economists have criticized the “extensive nature” of the EAM pattern of growth (Krugman 1994), most others agree that it generated excellent results in many areas. Growth averaged over 9 per cent a year (Table 5) while cyclical fluctuations were minimal. Inflation remained below 10 per cent, the average budget deficit was small, the current account balance was in most cases positive, and public debt/GDP rose by a tolerable 1.2 points a year. Financial crises were rare. Fast growth was accompanied by an equally rapid change in the structure of output and exports and technological upgrading, as shown by 0.89 points average surge per year in the share of industry in GDP which turned these economies into very efficient manufacturers in just two decades, including thanks to the 0.11 points annual increase in the average years of education of the labor force. Another important achievement was a decline of inequality from already low levels. In Taiwan for instance, the Gini coefficient fell from 0.32 to 0.28 between 1964 and 1980 thanks to a rapid expansion of employment for both low-skilled and educated workers. Meanwhile, rapid growth and affordable food prices and input policies reduced the usual urban bias of public policy. As a result, average food availability per person/day rose to 2660 calories and 70.4 grams of proteins, which, combined with reduced income inequality, ensured access to food by most people. Though the attention to environmental issues was modest, the carbon emissions per million US\$ of value added remained low (*ibid*), signaling a fairly efficient energy use.

3.2 The Chinese export-led, mixed-economy model, 1990-2010.

The recent rise of China has led many developing countries to look with interest at her economic strategy. The Chinese take-off coincided with a strong regional decentralization which limited the power of the central government. Yet, the Chinese Communist Party retained control over much of the economy in alliance with a new bourgeoisie of “red-hat capitalists” (Bardhan, 2010). Decentralization also led to the creation of local alliances between the bureaucracy and businesses, as about one third of private entrepreneurs are members of the Communist Party.

China substantially opened up its economy after joining the WTO in 2001, though at 16 per cent, average tariffs remained relatively high. Capital controls have remained important as the country is open primarily to FDI. This approach prevented the entry of short-term speculative moneys as well as free capital outflows, with the result that China recorded a surplus on both the current and capital account over much of the past two decades. Such surpluses were not used to import capital goods, technology or managerial skills but to buy US treasury bonds, making China a capital-exporting country (Yongdin, 2006). A restrictive monetary policy kept inflation under control. Until 2005, China’s exchange rate was pegged to the US dollar at a very competitive rate, but thereafter it was allowed to appreciate by 25-30%. A prudent fiscal policy kept the average deficit at two per cent over the period considered. The tax burden has been relatively low, though rising after 2000. Since 1994, a marked reform of the tax system centralized revenue collection and allocation, but centre-local fiscal relations have not been effective in reducing income disparities across provinces.

China has adopted a highly interventionist industrial policy. Though over half of the GDP is generated by the private sector, the state still controls important industries. Export-led growth has been promoted through special economic zones, incentives to exporting firms, and attractive policies for FDI (low tax rates, tax rebates, long tax holidays, low rents for the use of land, and so on). State-owned banks played a crucial role in industrial finance and have been at the service of a

state-directed industrial policy, but in recent times credit bubbles by the new ‘shadow banks’ pose a problem of financial stability. FDI traditionally flew to capital-intensive projects, large-scale infrastructure, high-tech and service industries, though recently public policy has also emphasized the promotion of research and development, high quality education and biotechnology. Energy-intensive industries still dominate the economy, presenting huge challenges to decouple CO₂ emissions from growth.

China has a dualistic economy and a segmented labor market. The new 2008 labor law partially secures the tenure of long-time workers. At the same time, the post-1994 tax reforms reduced the capacity of local bureaucracies to provide basic social services and transfers to workers. Schools and hospitals have been commercialized to such an extent that the poor are often priced out of welfare services (Bardhan, 2010). The decline of basic services, inadequate fiscal transfers and high fees reduced substantially access to welfare, particularly for the poor. In a rather short period of time, China essentially moved from one of the most impressive and egalitarian social-service systems to an effectively privatized highly unequal system (*ibid*).

The Chinese model produced over the two decades considered an amazing average yearly growth rate of GDP of 9.9 and considerable macroeconomic stability, but also led to rapidly increasing inequality and environmental degradation. Thanks to high foreign reserves and very low foreign debt, China’s growing integration into the world economy has protected it from external shocks. Rapid structural transformation has taken place through fast industrialization and exports growth. Human capital formation has been falling from medium-high levels, however, due to a drop in public expenditure, though there have been improvements in some areas, as for the education of people above 25. As noted, China also experienced a very rapid increase in income inequality (which did not affect much poverty reduction because of a very fast growth of GDP) and did not face a major food problem, as its food indicators have been better than in India and slightly better than in Latin America. Since China relies on coal for 70 per cent of its commercial energy needs (compared to 16 per cent in Europe), her CO₂ emissions per unit of GDP are the highest of all seven development models considered in Table 5, a problem which has sharply reduced the quality of life in much of China and is likely to retard growth over the mid-long term.

3.3. Latin America’s Progressive Policy Approach (LAPPA) of 2002-2012.

Latin America development policy changed substantially during the last six decades. During the 1950s, 1960s and 1970s the region broadly followed an ISI-led development strategy, while the 1980s and 1990s were dominated by Washington Consensus policies. In contrast, since the late 1990s/early 2000s the region shifted to a progressive policy approach, recorded a growth acceleration, a decline in income inequality and important gains for most MDGs, including a rapid drop in poverty rates. These changes coincided with the region’s return to democracy, its consolidation and a shift towards left-of-centre regimes that placed much more attention than before to social justice, while at the same time sticking to prudent macro policies (Cornia 2014b).

The trade liberalization introduced in the 1980s and 1990s were not overturned and any remaining anti-export bias was eliminated. However, there was an attempt to diversify trade both by countries of destination and type of goods, a policy which would be beneficial also in the case of Uzbekistan. The region also sustained the openness of the capital account (though controls on portfolio flows were introduced in several cases), external indebtedness was reduced and currency reserves soared. In a region that had suffered in the past frequent financial crises, most countries introduced stricter regulations of their banking system, while assigning to state banks a greater role in financing economic activity, especially during the crisis years 2008-2010. As for the macroeconomic policy,

during periods of bonanza the authorities controlled the expansion of money supply through the accumulation of reserves, sterilization, the creation of stabilization funds (as in Chile) while during the 2008-9 crisis adopted counter-cyclical monetary and fiscal policies to offset the negative effects of the crisis in the advanced economies. Most Latin countries abandoned the fixed peg regimes inherited from the 1990s and opted for a managed and competitive real exchange rate. However, in spite of these measures, the extra-regional real exchange rate appreciated by 4.8 per cent for the decade as a whole owing to the pressure exerted by export bonanzas, capital inflows and remittances. The last decade witnessed also a reduction of budget deficits by means of 'expenditure rules', rising progressive taxation and taxation of the informal economy, introducing a financial transaction tax, and making excises less regressive.

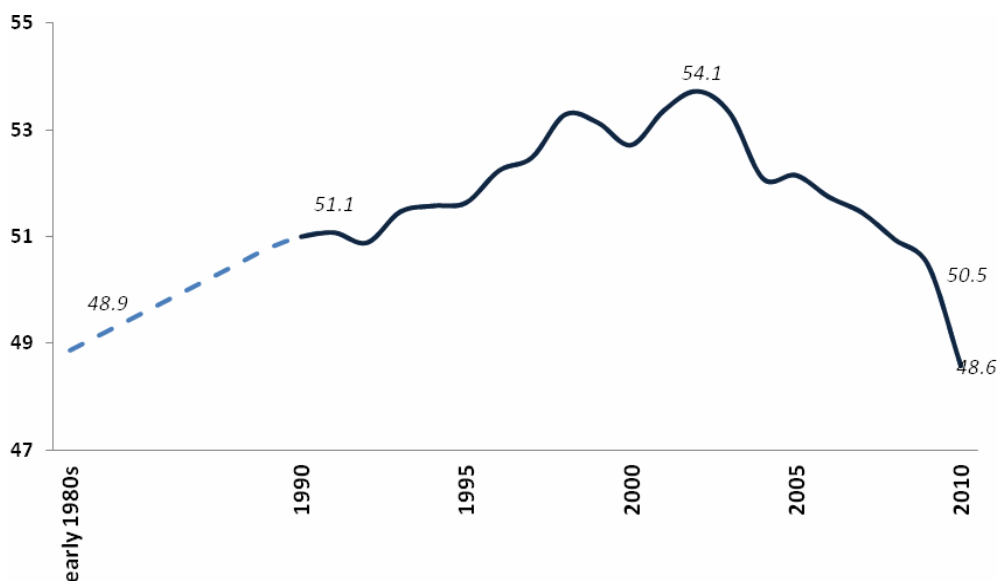
However, with few exceptions (such as Chile and Costa Rica) the LAPP model has generally lacked an explicit industrial policy, though at the same time there was a deliberate public effort to invest in human capital, focusing in particular on the secondary education of the children of the poor, so that the enrolment gap between rich and poor children of 14-18 years of age narrowed sharply. Public policy explicitly addressed the labor problems inherited from the Washington Consensus era by strengthening wage bargaining, formalizing employment, expanding social security coverage and raising minimum wages. Social expenditure continued its slow upward trend initiated in the 1990s, while its incidence became more progressive. In addition, all countries introduced or enlarged progressive social assistance programs (social pension, cash transfers, employment schemes) costing 0.2-0.8 per cent of GDP.

During the period of reference (2002-2010), the LAPP model generated positive results in all but one of the areas considered. It produced a satisfactory GDP growth of 4.5 per cent a year ((Table 5), up from or 2.4 percent during 1981-2002, driven only in part by higher world commodity prices and a rise in investments. Though the region avoided a financial crisis in 2009, GDP decelerated on average by 3 percentage points despite greater export diversification and sharply improved financial regulation. In this sense its resilience to external crises was limited by its deep global trade integration. Improvements in growth, investments and food security were achieved in a context of low inflation and twin deficits and the absence of banking crises, while the gross foreign debt declined on average by 4.45 points of GNI a year. However, with the exception of Argentina and Mexico, the share of industry in GDP did not increase owing to continued pressures on the real exchange rate and a weak industrial policy, fuelling fears of a *re-primarization* of production and exports (Ocampo 2012).

One of the key achievements of the LAPP strategy over 2002-2010 was a well documented 5.5-point decline in the Gini coefficient, which continued falling also over 2011-12) due to an improved distribution of human capital among workers, a rise in minimum wages and transfers, prudent macro policies a competitive exchange rates and more progressive taxation and transfers (Cornia, 2014a).

Average calories and protein availability per person/day rose to acceptable levels. While still widespread in Central America, the incidence of malnutrition fell due to rising incomes, a better income distribution and subsidies introduced to head off the food crises of 2007-8 and 2010. Despite an already significant impact of climate change in Mexico and Brazil, the region has not yet developed a low-carbon development strategy, and sooner or later might face a trade-off between GDP growth and CO₂ emissions. However, carbon emissions per unit of GDP have remained lower than in other continents (3.4 tons as opposed to 25 in the US and 10.5 in the EU) thanks in part to the diffusion of hydro-power and public transportation in several countries, and low-medium GNI/c. In Brazil the shift to bio-fuels reduced carbon emissions but cut land for food production.

Figure 5. Trend in the average un-weighted regional Gini coefficient of the distribution of household income per capita, Latin America, early 1980s- 2010



Source: Cornia (2014a)

3.4 Similarities and differences of the above models with the recent Uzbek approach

Uzbekistan's transition and development model has been and remains unique. Its transformational recession was the mildest of all FSU countries, over 1991-2013 its GDP/c more than doubled, and the country exhibited considerable resilience during the 2008-13 global crisis. These results are even more impressive when considering that Uzbekistan benefitted from moderate 'export bonanzas' as compared to the Russia Federation, Kazakstan and Turkmenistan, and that is located far from global markets.

Uzbekistan transition and development strategy has been the subject of debate. Zettelmeyer (1998) referred to the (difficult-to-understand) "Uzbek Growth Puzzle" whereas Popov (2013) speaks of "an economic star". In turn, Cornia and Popov (2001) emphasize its success in preserving state capacity and avoiding the collapse of pre-existing public institutions, though two decades into the transition the institutional set-up of the country has not evolved as fast as it is needed to support the functioning a market based 'mixed economy' and to avoid elite capture. In turn, Blanchard highlighted the moderate 'disarticulation' of its industry. But, how much of this success was due to 'luck' (high prices for its exports) and how much was due to conscious policy choices?

By and large the Uzbek strategy resembles in several respects the EAM model followed in the 1950s, 1960s and early 1970s by the Asian Tigers (South Korea, Taiwan, Singapore and Hong Kong). During a first phase (roughly 1994-2004) Uzbekistan followed an ISI policy characterized by an appreciated exchange rate, import protection, depressed agricultural prices, state interventions (through subsidies and price controls) to promote the 'infant industry', a prudent macroeconomic policy, and the encouragement of FDI in selected sectors (autos, electronics, textiles, chemicals, mining, and agro-processing). Like the Asian Tigers, after a decade of ISI policies, in 2003-4, the country shifted its macro signals to achieve an export-led growth: it reduced in part the foreign exchange surrender requirements, unified the multiple exchange rate, devalued it substantially and – as the Asian Tigers did – promoted new exports in a variety of ways. Imports were liberalized slowly and controls kept the capital account closed, except for selective FDIs. After the mid 2000s the balance of payments was further strengthened by a massive inflows of migrant remittances. Fiscal policy remained prudent and recorded good results while the (costly) social protection model inherited from the Soviet era was simplified. Finally, both China and East Asia were a clear

example of ‘extensive growth models’ (as Uzbekistan is) in which the rapid rise of output was due to a large increase in capital and labor inputs rather than to a surge in TFP. A large increase in output was in fact accompanied by a slow increase in per capita consumption.

There are however key differences with the policy approaches followed by the Asian Tigers, China and Latin America. All these economies were and are more diversified than Uzbekistan which still relies heavily on the primary sector. In addition, at the beginning of their growth process the Asian Tigers and China carried out egalitarian land reforms. In turn, both the Latinos and Asian Tigers invested heavily in secondary and higher technical education, an essential ingredient for the success of their labor-intensive exports which incorporated a considerable amount of semi-skilled labor. They also promoted labor-intensive cooperative movements such as the *Saemaul Udong* in South Korea or highly successful transfer programs as *Bolsa Familia* (in Brazil) and *Progresas* (in Mexico). In both East Asia and Latin America public policy led to a rapid growth of exports and GDP but also to greater employment, a steady accumulation of human capital, and a decline of the semi-skilled/unskilled wage differential, income inequality and poverty – i.e. all changes that earned the Asian Tigers model the label of ‘export-led growth with equity’ and the Latinos the label of ‘Open Economy Redistribution with Growth’. In turn, the East Asian and Chinese Miracles were not so much an export miracle but the result of a huge increase of domestic investments facilitated by strong industrial policies (which were instead mainly absent in Latin America).

This brief review of the development strategies and performance of these three regions has a number of lessons for Uzbekistan. First, several of the policy followed by Uzbekistan during the last decade (mainly in the macro and industrial policy area) ought to be continued though its policy stance should be liberalized faster. Second, other policy components missing in the Uzbek experiment could be considered for inclusion, starting from greater attention to environmental sustainability, employment creation and inequality, and a further enlargement of economic opportunities for the private sector. Finally, it is important to stress – again – that the application of some of the policies adopted in the above three models would require in Uzbekistan a faster institutional evolution than currently planned. For instance, the successful export and investment drive in manufacturing recorded in the EAM (and Japan) relied on the development of institutional mechanisms (e.g. the ‘deliberation councils’) which ensured a systematic consultation and coordination among firms, and between firms and the ministries of industry and foreign trade and between the latter and the authorities in charge of credit policy. Such coordination mechanisms reduced the risks of coordination failures and asymmetric information. Their success depended as well on a competent and independent bureaucracy, little affected by problems of corruption.

4. Conclusions: realistic development options for achieving *Uzbek Vision 2030*

While *Uzbekistan Vision 2030* has set objectives in terms of income per capita and GDP growth, for both instrumental reasons and to reach a broader set of development goals the new strategy should aim not only a rapid growth of GDP but also at: sustaining the recently acquired food- and energy self-sufficiency; promoting the evolution of the V.A. structure towards innovative manufacturing and modern services; continuing the development-oriented macroeconomic policies of the past; achieving an acceptable environmental balance; promoting greater employment creation for unemployed and under-employed, including via the development of SMEs clusters; and achieving a lower level of income inequality - which combined with the planned rapid growth – will ensure a faster decline of poverty than observed during the last decade.

The discussion in the first three Parts of this paper suggests that there are two broad alternative development paths the country may follow to continue its recent progress. Before proceeding to their summary discussion it is important to emphasize that neither is meant to be a 'new Gosplan', but only a set of indicative guidelines which could help developing more cohesive policies at the macro, social, sectoral and environmental level.

4.1 Business as usual strategy

The easiest, 'path-dependent' strategy is to continue increasing investments by large public, private and selected foreign companies in fossil fuels, mining, water-intensive crops, selected manufacturing sectors and infrastructure. These three types of firms would continue to be the main actors, growth engines and source of forex (beyond remittances), as predicted by the EIU report (2014). Small companies, agriculture and the informal sector would play an ancillary role. This development path is relatively well experimented, and has delivered rapid growth and a solid balance of payments during the last decade. Yet - as GDP per capita reaches levels close to US\$15,000 - growth generally becomes more manufacturing- and innovation-intensive. Indeed, at such development stage, companies normally compete not only by extracting and exporting primary commodities but also by producing new goods, using more sophisticated production processes, and creating new innovative products. To reach the target 8.7 percent growth of GDP with the business as usual approach, the investment rate will have to rise by 3-6 GDP points, perhaps more – depending on the specific sectors chosen, technology used and unforeseeable and uninsurable shocks.

The country would likely continue financing much of this effort with domestic savings – including from its Fund for Reconstruction and Development - and selected FDI from the Russian Federation, China and few other countries. The Central Bank would adopt an accommodative monetary stimulus (hopefully reaching also the SMEs that nowadays are almost excluded from credit) and attach less priority to the reduction of inflation. It will avoid relying on the international capital market to avoid dependence on global finance, but – given the hefty size of the additional savings to be mobilized – and given the disincentives caused by still restrictive rules about forex surrender requirements and domestic sum deposits – the country may not be able to mobilize domestically such additional savings. Indeed, it may find difficult to mobilize in a capillary way household savings (the 'cash economy' is still important in the country). On the other side, the country may wish to broaden its prudent relationship with inherently unstable international financial markets. The financing of development would thus remain a dilemma. Overall, the macroeconomy would remain prudent and oriented to the development of large firms, as during the last decade, though it is possible that with growing market complexity and the need to mobilize household savings the country may have to extend credit provision and banking coverage to sectors so far bypassed by them, relax the related lending policies, and further liberalize trade and forex surrender requirements and currency convertibility.

If new oil/gas/mining explorations are successful (and if the downside risks mentioned in Part 3 are controlled) this approach is likely to deliver again solid growth and a strong balance of payments. The achievement of social targets (e.g. poverty reduction) may be helped by raising public sector wages and increasing targeted social transfers. Yet, this approach would differ in several respect from the virtuous development experiences of East Asia, Latin America and China discussed in Part 3, and would not likely achieve the employment, poverty, inequality and environmental objectives discussed in Part 1, while economic structure would continue to be broadly characterized by a low-ish share of manufacturing in total output. Indeed, this approach may not reduce the persistently high unemployment/underemployment and inequality (due to the high capital intensity of production) – and may feed a continued outflow of migrants, while exacerbating resource depletion and

environmental degradation over the medium term. Domestic demand and energy prices may also keep growing leading to energy-poverty for lower-income people, unable to finance by themselves energy efficient building and new heating/electrical systems, thus possibly reverting to over exploitation of natural resources such as forests, rivers, landscape and biodiversity (a fact that may cause problems to agriculture, the attempts of adaptation to climate change, and a deterioration of the quality of life. In brief, such approach would reach only three of the development goals discussed in Part 1, and may thus be unable to count on a sufficient popular support and lead to the development of a strong social compact which, as suggested by Luiz (2014), is necessary to ensure stability and economic progress under both democratic and non-democratic rule.

4.2 Shifting to a broader-based and more sustainable strategy

Alternatively, the country may decide to shift its growth engine at the margin (i.e. without penalizing the current leading sectors) towards the production and export of low water-intensive crops (a trend already underway but which needs to be intensified for several more years), labor-intensive and high value-added agricultural goods (fruits and horticulture for which there is a huge potential – see World Bank 2013a)⁸ and labor-intensive modern manufacturing goods and innovative services including tourism. The energy intensity of these sectors is comparatively low, thus making it possible to cover the additional energy demand emanating from growing urbanization and industrial development with traditional and renewable energy sources which are less polluting. These sectors are also less capital-intensive and their employment elasticity of growth is higher than that of the coal, gas, mining and the chemical sector. This shift might free at the margin some public investments which could be allocated to further improve energy conservation and reduce energy demand. The balance of payments would remain strong as remittances and traditional exports will continue generating substantial forex inflows while the new agricultural and manufacturing production would reduce imports of consumer and some investment goods and increase exports (as already observed in the case of horticultural products, fruits and automobiles) with a higher innovative and V.A. content.

While macroeconomic management will not (and should not) differ from the one highlighted under option 4.1, the new approach will require instead greater private and public investment in new medium-large manufacturing firms, and in SMEs' operating in new sectors, an increase and rationalization of the substantial but somewhat ineffective human capital expenditure, as well as improvements in transport/storage infrastructure and cross-trading procedures.

The new approach needs in particular to introduce institutional measures to liberalize and strengthen – in parallel to the large industrial sector – private medium enterprises, small and medium enterprises (SME), and clusters of SMEs which - particularly in peripheral rural areas and peri-urban areas - could generate substantial V.A. in new sectors, while ensuring a balanced spatial development. Analyses for Kaskadarya (Cornia and Marnie, 2008) suggest that given their lower investment per capita and greater flexibility, SMEs and clusters of SMEs (often referred to as 'industrial districts') can play a central role in soaking up surplus labour, modernising remote regions and producing tradable goods, import substitutes in particular (see later).

Before continuing our discussion, a clarification is needed at this point. Indeed, in many countries of the former Soviet Union, suggestions about strengthening SMEs are often looked upon with

⁸ During his many visits to Uzbekistan this author often spoke of a '*cherry-led development model*' which would complement handsomely the drive of the traditional sectors and create considerable exports and employment. The key issue in this sector is to ensure that the benefits of increased output and exports of horticultural products are shared among a large number of farmers, and not monopolized by a few large farms or trade intermediaries.

skepticism. This is due to the limited development of such sector in the FSU, as well as to a semantic confusion, as SMEs are often assimilated to micro-enterprises (MiE), i.e. enterprises that employ less than 5-10 people (or up to 19 workers, see Table 6) and typically operate in the informal sector. While MiE account in Asia for up to a third of total nonagricultural employment (ADB 2009), not all of them represent a promising nascent form of entrepreneurship, as micro-entrepreneurs may be running their businesses because of a lack of stable wage employment. In contrast, SME's are larger, mainly operate in the registered or formal sector and employ up to 500 workers (Table 6) or 200 in the ADB (2009) definition. With such a size, considerable economic opportunities are at hand.

Table 6. Alternative definitions of Micro, Small and Medium Enterprises

Defining Institution	Criterion adopted	Micro Enterprise	Small enterprise	Medium enterprise
European Commission	N. of employees	.....	1- 50	250
	Turnover	.....	7 mn Euros	40 mn Euros
IFM Munich	N. of employees	.....	1 – 10	10-499
	Turnover	.....	1 mn Euros	100 mn Euros
US Small Business Admin.	N. of employees	1-19	20-99	100-499
UK Dept. of Trade & Industry	N. of employees	1-9	10-99	100-499

Source: http://www.zarate-consult.de/kosvet3/m4/KEET_M4_LU3_L1/sme_advantage_and_disadvantage.html

A vast microeconomic literature shows that SMEs enjoy several advantages over large firms, especially in the production of consumer durables and in personal services: (i) they have a greater employment intensity and lower capital/skills requirements than large firms, and can therefore develop more rapidly in regions with comparatively lower savings and human capital; (ii) they generally pay lower wages than larger firms; (iii) their part-reliance on owner and family labor increases microeconomic efficiency. The presence of owners amidst workers and the SMEs low hierarchical structure improve work incentives, reduce labor shirking and supervision costs, and improve worker commitment; (iv) given their little formalized business structure, long-term perspectives in SMEs are not dominated by objectives – now common in large firms – such as ‘increasing shareholder value’; (v) their comparative smallness and flexibility enables them to adjust quickly and easily to changes in market conditions and consumer preferences; (vi) their regional embedded-ness and close customer contacts allow them to better understand customers’ tastes and preferences; (vii) SMEs are often able to specialize and innovate in niche markets and narrow market segments; (viii) given their smaller size, they are more exposed to market competition than large domestic companies, a key factor to increase efficiency.

SMEs also suffer from disadvantages which – in some cases - depend on market failures or specific aspects of the production process (as in sectors with strong economies of scale). These problems include: (i) limited self-financing capacity and difficulties in accessing capital markets and obtain credit, often for lack of adequate collateral; (ii) limited innovation due to high fixed costs of research and to acquire new technologies (ITC is an exception because of its ‘distributed nature’); (iii) difficulty in penetrating export market due, also in this case, to high initial sunk costs and recurrent fixed costs. Due to this, SMEs tend to produce more often tradable goods for the domestic market, inputs for larger export-oriented firms, and non-tradable services; (iv) greater difficulties to hire skilled workers and draw on the expertise of specialists who can advise on taxation, and administrative and other business problems.

SMEs themselves and state authorities have attempted to introduce solutions to these problems (see, for instance, the extensive list of measures adopted by Asian governments cited in ADB (2009, Tables 5.2 and 6.1). In the field of access to credit, for instance, associations of SMEs and local governments provide 'credit guarantees'. In turn, governments have encouraged the creation of village-township banks, savings associations, rural credit cooperatives, and so on. Measures have also been introduced in the fields of simplification of administrative norms for setting up and running new companies; simplified tax regimes and admin norms (starting with a reduction in the number of activities subject to obligatory licensing), the liberalization of markets of raw materials for industrial processing which at the moment are only deliverable at low prices to SOEs or large private firms; easing access to investments goods, in particular imported small-scale investment goods and technology; improving business infrastructure (e.g. ensuring stable electrical, gas and water supplies); promoting cooperative action and public-private partnerships to attract international aid and FDIs. In addition several problems faced by the single SMEs have been solved at the level of SMEs clusters, particularly 'hub-and-spoke SMEs clusters' and chambers of commerce which provide business services and training, supply information on market conditions and the opening up new marketing channels within Central Asia and the Russian Federation.

Overall, given their strengths and weaknesses, SMEs and their clusters could become an important growth engine in Uzbekistan by creating additional jobs at lower capital cost per worker in sectors with the following characteristics: (i) ability to reach economies of scale already at moderate production levels (as in the case of food, beverages, leather goods, garment, metal carpentry and so on); (ii) low tech labor-intensive manufacturing (textile, food, leather, furniture, simple mechanical machinery), (iii) goods with high weight per unit of value added (e.g. construction material, fertilizers, metal carpentry) which are for this reason naturally protected from foreign competition; (iv) part of the service sectors (tourism, trade, transport and warehousing, construction, restaurants, repairs, real estate services) where economies of scale are generally modest.

While SMEs and clusters of SMEs represent a major pillar of the economy in countries such as Germany, Italy, China, Turkey and all Asian market economies (ADB, 2009), in most former socialist countries of Europe (where the slogan 'big is beautiful', a widespread 'control mentality' and the Gosplan legacy still dominate) they are often looked at with skepticism because they are often confused with microenterprises, because the positive experience of other countries is ignored or neglected, because of the barriers they face in the fields mentioned above, and because of the perceived low quality of their products. Yet, empirical evidence from the above mentioned countries, the US Silicon Valley, Brazil, Pakistan, China's TVE, South Korea and so on shows that 'clusters of SMEs' can overcome most of problems faced by individual SMEs (see the literature reviewed in Cornia and Marnie 2008).

In conclusion, in this 'mixed economy' alternative approach - which may be labeled '*walking on three legs*': (i) the Uzbek state should retain control (in cooperation when needed with selected multinationals providing advanced technologies and capital) of the large strategic sectors making use of capital intensive equipment and working on projects with long gestation periods (large scale infrastructure, energy, metals, cement, glass and other basic inputs goods); (ii) in turn, medium-large domestic private and selected foreign firms (with up to 2-3000 employees) may emerge in the middle-high technology-intensive sectors (producing and exporting consumer durables, precision instruments and simple machine tools, following the successful example of UZ Daewoo) whenever market conditions warrant it in terms of institutions, regulation and domestic/foreign market demand; (iii) finally, labor intensive SMEs may operate in the sectors indicated two paragraphs above, including in remote areas such as Kaskadarya, Shurkandarya and Djizzak. This sector would also aim at exporting part of its output (via general trading companies or producers associations) and reduce the country's dependence on imported consumer goods. The search for a more

regionally balanced strategy would also represent be an additional bonus, given that globalization and the free play of market forces tend to lead to rising concentration of investment, economic activity and wealth in a the richest regions of Uzbekistan.

Overall, in relation to the ‘business as usual scenario’ this approach would; require a lower increase of the saving ratio; raise the employment elasticity of GDP growth and - through that - reduce income inequality and poverty; ensure a more rapid evolution of production/export structure including in key services (such as transport and tourism), and facilitate the return of part of the Uzbek migrants who may find jobs in the production of labour-intensive goods. This ‘model of widespread capitalism’ might also ensure greater support and popular participation than the path dependent approach. In the latter, the main actors/drivers would be a few sizeable state or foreign firms, while in that proposed by the World Bank (2012) the emphasis is on medium-large private domestic firms and the liberalization of the economy. Both approaches do not seem to worry about their high capital/worker investments as well as the ‘political economic problems’ they may cause. Continued emphasis on few large firms has some advantages (e.g. in terms of planning and control) but – as shown by the recent financial crisis in the USA and the fight between politically-ambitious oligarchs ad state authorities in the Russian Federation - large corporations command a huge economic influence and may be ‘*too big to fail*’ (due to the systemic effects their failure would generate on the entire economy) as well as ‘*too big too jail*’ (due to their control of parts of the political system which depends on their financial support). Rising capital concentration may thus generate large ‘political diseconomies of scale’.

Instead, in the model of ‘popular capitalism’ proposed above such problem is less likely to arise (except for eventual problems of ethnic or regional inequality), while the animal spirits of small and medium entrepreneurs would be liberated and likely generate widespread benefits and political support. Obviously, the state (alone or in joint ventures) would retain a key role in: (i) the production of strategic goods (energy, mining, metals, and key manufactured goods)⁹, (ii) bringing to the market new products which require considerable and risky investments in R&D¹⁰, (iii) providing those public goods (infrastructure, health and education) which raise the rate of return on private investments, (iv) producing goods in which existing state-owned enterprises are profitable¹¹. But there should be growing space for private initiative, public-private partnerships and SMEs to promote a more effective allocation of resources.

An important implication of this alternative approach is that, with a change in the relative weight of the key actors (i.e. with the rise of medium-size private firms and clusters of SMEs) public policy should shift from the existing approach to the creation of an appropriate institutional architecture and legal systems facilitating the successful development of SMEs in the context of a mixed economy. This transformational processes will require time and courage for adjusting and introducing norms on firms establishments, inspection, competition, bankruptcy, special tax regimes, extension of credit to the new sector, education and technical training, infrastructure and many other which cannot discussed hereafter.

⁹ Given the large financing costs to expand activities in sector characterized by ‘lumpy investments’ the government may consider transforming some of these state enterprises in joint-stock companies and floating some of the stock on the stock market (thus generating new financial resources) while retaining a ‘golden share’ to control the strategic orientation of the firms with just 30-35 % of the shares.

¹⁰ Once more Chile (now a member of the OECD) provides a good example of this approach. A state company did all the necessary research to develop the aqua-culture of salmon. When the new fish-farming technique was successfully developed, the state gradually ceded it to private companies which over time exported over one billion US\$ of salmon a year (Gebreyesus and Iizuka, 2010).

¹¹ This is the approach followed in China, where non strategic SOEs loosing money were privatized or closed while those making profits remained in state hands

References

- ADB (2009), "Enterprises in Asia: Fostering Dynamism in SMEs", available at <http://ccas.doshisha.ac.jp/eng/Econference/econfpdf/26th%20Conference%20of%20the%20American%20Committee%20for%20Asian%20Economic%20Studies/Khor.pdf>
- ADB (2013), "Carec transport strategy 2020", ADB.
- Alonso, José Antonio, Giovanni Andrea Cornia and Rob Vos (2013), "*Alternative Development Strategies for the post 2015 Era*", Bloomsbury, London and New York.
- Anichkova, Darya (2012) "*Central Asia's Migrant Headache*", June 12, Carnegie Endowment for International Peace.
- Bardhan, Pranab (2010). *Awakening Giants, Feet of Clay. Assessing the Economic Rise of China and India*. Princeton and Oxford: Princeton University Press.
- Bloom, David and Jeffery Williamson (1998), 'Demographic Transitions and Economic Miracles in Emerging Asia', *World Bank Economic Review* 12, 419-56.
- Bresser Pereira, L. C. (2011). 'An Account of New Developmentalism and Its Structuralist Macroeconomics' . *Brazilian Journal of Political Economy*, 31 (3), 493-502
- CER-UNDP (2005), ' Linking Macroeconomic Policy to Poverty Reduction' CER-UNDP, Tashkent.
- Cornia, Giovanni Andrea and Vladimir Popov (2001), "*Transition and Institutions: the Experience of Gradual and Late Reformers*", Oxford University Press, Oxford, UK
- Cornia, Giovanni Andrea and Sheila Marnie (2008), " The Implementation of a Regional Development Strategy for Kashkadarya". CER-UNDP, Tashkent.
- Cornia, Giovanni Andrea and Milica Uvalic (2013), "*Learning from the past*" in Alonso et al.(eds). op. cit
- Cornia, Giovanni Andrea (2014a), "*Falling Inequality in Latin America: Policy Changes and Lessons*" Oxford University Press, Oxford.
- Cornia, Giovanni Andrea (2014b), "The new structuralist macroeconomics and income inequality" in Cornia G.A. and F. Stewart (eds) "*Towards Human Development: New Approaches to Macroeconomics and Inequality*", Oxford University Press, Oxford.
- Economist Intelligence Unit (2014), 'Uzbekistan: country report', 8 May 2014, EIU, London.
- Gebreeyesus Mulu and Michiko Iizuka (2010), Experimentation and Co-ordination as Industrial Policy: Examples from Ethiopia and Chile, *Wider Angle*, UNU-WIDER, https://www.google.it/?gws_rd=ssl#q=chile+salmon+exports+and+industrial+policy+
- IMF (2005). 'World Economic Outlook'. Washington, DC: IMF.
- IMF (2013). 'Republic of Uzbekistan: 2012 Article IV Consultation. Washington, DC: IMF.
- Khan, Azizur Rahman (2007) "*The land system, agriculture and poverty in Uzbekistan*", in A. Haroon Akram-Lodhi, Saturnino Borrás Jr and Cristobal Kay (eds.), *Land, Poverty and Livelihoods in an Era of Globalization*, Routledge, London and New York,
- Kotz, David M. (2005), ' The Record of Economic Transition in Uzbekistan', in CER-UNDP, op. cit.
- Koujianou Goldberg, Penelope and Nina Pavcnik (2007), "Distributional effects of globalization in developing countries", Working paper 12885, *NBER Working Papers series*, NBER, Cambridge.
- Krugman, Paul (1994), "The Myth of Asia's Miracle," *Foreign Affairs*, Vol. 73 (November-December), pp. 62-78
- Johnson, Chalmers (1982). *MITI and the Japanese Miracle: The Growth of Industrial Policy in Japan, 1925-75*. Stanford: Stanford University Press.
- IMF (2012), Article IV Mission to Uzbekistan, Washington DC,
- Luiz, John (2014) 'Social compacts for long-term inclusive economic growth in developing countries', *Development in Practice*, Vol 24, No. 2, p. 234-244

- McKinley Terry, Galina Saidova, Zavikullah. Nasritdinkhodjaev, Yulduz Abduganieva and Artur Tukhtarov (2004) “*Employment Promotion and Poverty Reduction*” in “Linking Macroeconomic Policy to Poverty Reduction” edited by G.A. Cornia for CER and UNDP, Tashkent.
- Ocampo, José Antonio (2012). The development implications of external integration in Latin America. *WIDER Working Papers*, No. 2012/48, Helsinki: United Nations University World Institute for Development Economics Research.
- Popov, Vladimir (2013), “Economic miracle of the post-Soviet Space: Why Uzbekistan managed to achieve what no other post-Soviet state achieved”, *MPRA paper n. 48723*, Munich.
- Prasad, E., Rogoff, K., Wei, S-J. and M. Kose (2003), “Effects of Financial Globalisation on Developing Countries: Some Empirical Evidence”, *IMF Occasional Paper 220*, IMF, Washington D.C.
- Rodrik, Dani (2008). *The Real Exchange Rate and Economic Growth*. "http://www.hks.harvard.edu/fs/drodrik/RER%20and%20growth.pdf" revised, October.
- Polterovich, V., and V. Popov (2004) Accumulation of Foreign Exchange Reserves and Long Term Economic Growth. In *Slavic Eurasia's Integration into the World Economy*. Tabata, S., and A. Iwashita, eds. Slavic Research Center, Hokkaido University, Sapporo. (<http://www.nes.ru/%7Evpopov/documents/EXCHANGE%20RATE-GrowthDEC2002withcharts.pdf>)
- Robinson, James (2010). ‘The Political Economy of Redistributive Policies’, in L. F. Lopez-Calva and N. Lustig (eds) *Declining Inequality in Latin America: A Decade of Progress?*. Washington, DC and New York: Brookings Institution Press
- Rojas Suarez, L. (2010). The International Financial Crisis: Eight Lessons for and from Latin America’. CGD Working Paper 202. Washington, DC: Centre for Global Development.
- Sen, Amartya K. (1985). *Commodities and Capabilities*. Oxford: Oxford University Press.
- Tahlil (2005), Rapid Assessment of Informal Employment of Children in Urban and Rural Areas of Uzbekistan, UNICEF.
- UNDP (2014a), “Environmental Sustainability”, Draft background paper for the preparation of Vision 2030, 4 April 2014. UNDP Tashkent.
- UNDP (2014 b) “Trade and Human Development” UNDP Bureau for Europe and CIS.
- Unicef (2013) “Transmonee Database” Unicef, Geneva Regional Office, <http://www.transmonee.org/>
- United Nations (2003), “Uzbekistan: Common Country Assessment”, Tashkent.
- Yongdin, Yu (2006). Global imbalances and China, *The Australian Economic Review*, Vol. 40, No. 1, pp. 1-21.
- World Bank (1993). *The East Asian Miracle: Economic Growth and Public Policy*. Oxford: Oxford University Press.
- World Bank (2013). “Uzbekistan Energy/Power Sector Issues Note” by Artur Kochnakyan Sunil Kumar Khosla, Iskander Buranov, Kathrin Hofer Denzel Hankinson Joshua Finn. Washington DC , 2013
- World Bank (2013a). “Horticulture Policy Note for Republic of Uzbekistan”. Washington DC, June 2013
- World Bank (2014) “Uzbekistan Vision 2030: A Synthesis of Background Papers on Markets and Institutions, Human Development” May 15, 2014.
- Zettelmeyer, Jeronim (1998). The Uzbek Growth Puzzle. *IMF Working paper 98/1330*