

The Importance of the Heavy Manufacturing Sector and the Need for an Industrial Policy in Georgia

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Contents

Executive Summary	3
1 The current importance of manufacturing industry to the Georgian economy	5
2 Current composition of heavy manufacturing industry	7
2.1 Ferroalloys Industry	9
2.2 Fertilizer Industry	9
2.3 Steel processing sector	10
2.4 Cement Industry	11
2.5 Machine-building industry.....	12
3 The Need for Industrial Policy	12
3.1 The role of the state in economic development.....	13
3.1.1 The Renaissance of Industrial Policy.....	15
3.2 Forms of industrial policy	16
4 Case Study: Rustavi Steel.....	17

Executive Summary

Heavy manufacturing industry in Georgia is one of the most important sectors in terms of value added, exports and employment. It is also one of the few areas where there are large companies with immediate opportunity for dramatic expansion. Growth in this sector, therefore, offers huge potential for providing broad economic growth, reducing unemployment, increasing tax receipts and improving Georgia's balance of payments situation.

However, the sector as a whole has received very limited attention from subsequent Georgian governments. Discussions of economic development in Georgia, particularly since 2004, have focused on tourism, energy and (recently) agriculture, with a range of other sectors like transport and logistics, finance, food-processing and textiles gaining partial consideration depending upon where the discussion is taking place.¹

These three sectors have been supported by the government in a range of ways. In tourism whole towns have been renovated, airports have been built and even skiing infrastructure has been paid for at public expense. In energy, new electricity transmission lines have been built by the government, and the government has financed renovation of power infrastructure more broadly. In agriculture, the government has set up numerous state-run businesses to improve input supply, provided grants to farmers and subsidised loans to agribusinesses. All three sectors have been able to look for financing through the government's *Partnership Fund*.

Perhaps more importantly these sectors have been the focus of the Georgian Government's PR efforts and have been promoted as opportunities for investment in government supported road-shows, presentations and visits around the world.

By comparison, in spite of its significance in terms of GDP, employment and exports, there has been little consideration of the heavy industry sector in the public discourse about economic development. As a result, the government has not supported growth in the sector and elements of the infrastructure that support the sector have continued to degrade. Equally importantly, the government has not promoted the sector in their investment promotion efforts and, as a result, opportunities for investment and growth have undoubtedly been missed.

This is unfortunate. Manufacturing industry dwarfs tourism and energy in terms of value added to the economy. It is worth 10% of GDP, 16% of formal employment and around 30% of exports. Only the 'trade' (mostly small retail shops) sector is larger. Agriculture is smaller as a proportion of GDP and exports and while agriculture 'employs' more people, these people are very unproductive, and have incomes around 20% that of salaried employees.

If one looks at the sub-sectors, the numbers are similarly impressive. 'Metal and metal products' is worth 2.5% of GDP. 'Chemical and non-metal mineral products' (mostly fertilisers and cement) is worth 2.3% of GDP. This makes both of these subsectors roughly the same size as the entire telecommunications sector (worth 3% of GDP) or banking (worth 2.8%) and makes both sub-sectors far more valuable than the entire restaurant and catering sector (worth 1.9%) or the hotel sector (worth 0.6%). Another manufacturing sector, that of 'transport and manufacturing equipment' (worth 0.9% of GDP) is somewhat smaller but roughly the same size as manufacturing of alcoholic beverages- including wine (also 0.9%).

¹ Of course, this is not to claim that there is no discussion of other sectors. Both national and international organisations undertake evaluations of the Georgian economy that consider a wider range of opportunities than this list may suggest – but if one looks at the speeches of government officials and the direction of international development finance, these three categories draw the bulk of the attention.

Of all of the sub-sectors a few are particularly important; manganese, steel, fertiliser, cement, trains, airplane parts, electrical wire and other metal products stand out. These sectors generally gain their comparative advantage from a combination of existing plant infrastructure and/or available local inputs. The plants are often old but would be enormously expensive to replace and are often extremely well connected in terms of transportation infrastructure, physical buildings and electricity transmission provision. They also depend on the utilisation of locally available resources, whether that is manganese, scrap metal, lime, aggregates, or relatively inexpensive electricity.

All of these sectors also have the characteristics that Georgian growth needs if it is to be inclusive and sustainable. While the reforms of the UNM government, after 2004, brought high growth, they did not reduce unemployment and they left Georgia with a unsustainable balance of trade deficit.

To correct for these problems Georgia needs to encourage growth in high-employment export-oriented sectors. As manufacturing goods are all tradeable, the manufacturing sectors are all export-oriented or potentially so. Export orientation is particularly important because export-oriented growth is not constrained by local demand growth and because increase in exports is needed to fix Georgia's balance of trade deficit.

As a high-employing sector, growth in manufacturing industry will bring jobs and have large regional employment multiplier effects.

The fact that governments should promote growth in sectors that can act as 'growth engines', has become fairly well accepted in recent years, as a necessary component of economic development policy. Economists from Harvard and Cambridge have explained that dramatic and structural growth requires government support.

The form of the support is the proper subject of discussion between businesses, government and the wider public. It may include direct support, like protections from foreign competition, in the short term, or guarantees of low transport and energy prices. But more than anything, what investment development will need is an on-going dialogue with the government on public policy reforms. It will also need the sectors full inclusion in the platform of economic opportunities elaborated by the Georgian Government in business-fairs, meetings and speeches across the world.

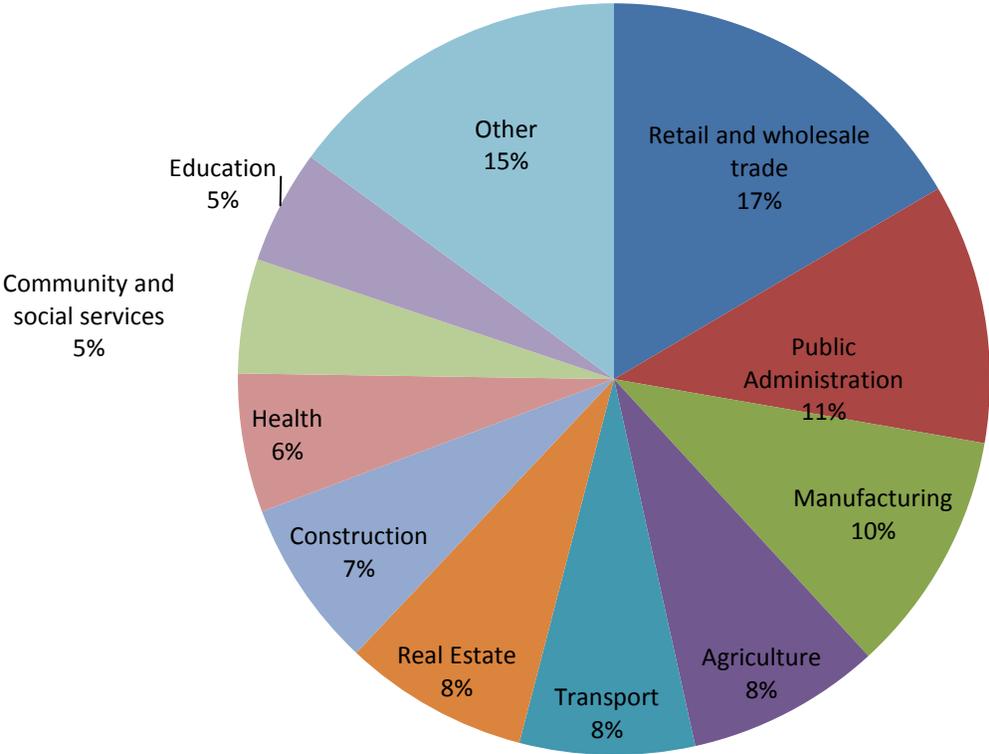
This paper will elaborate the importance of the heavy manufacturing sector, the opportunities for growth and the benefits that such growth would bring. It will also argue that, in line with most of the rest of the world's successful developing countries, encouraging this growth will require Georgia to adopt a pro-active stance to developing the sector. The analysis will end with a detailed description of the circumstances and opportunities facing Rustavi Steel as a case study for the kind of support that could be useful and what investments and growth that support could bring.

The exact form that a pro-active involvement should take, will not be elaborated here. Such a policy needs to be promoted over time and in discussion between the business community and the government. However, the analysis below should at least leave no doubt that this sector is crucial to Georgia's development and deserves to be part of any discussions about the country's future.

1 The current importance of manufacturing industry to the Georgian economy

At 10% of gross value added, manufacturing remains one of the largest sectors of the Georgian economy.

Figure 1: Breakdown of GDP by Gross Value Added (2012)

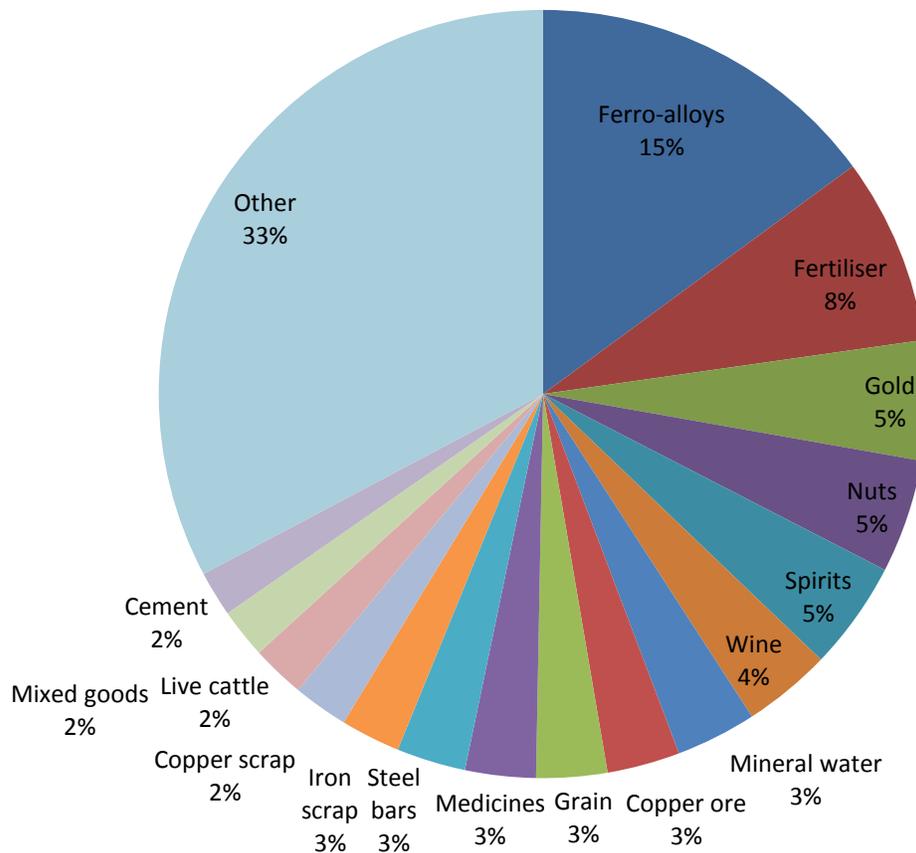


Ref: GeoStat (2013), Gross Domestic Product at Current Prices (www.geostat.ge)

As one can see, only 'trade' (mostly small retail or import businesses) and public administration (provided by the government) is larger in value-added terms, while agriculture, transport and construction are smaller.

Manufacturing industries have been amongst Georgia's largest exports for many years. In 2011, if one excludes cars, then the composition of Georgian exports is as follows:

Figure 2: Breakdown of Georgian Exports (excluding cars) (2012)²



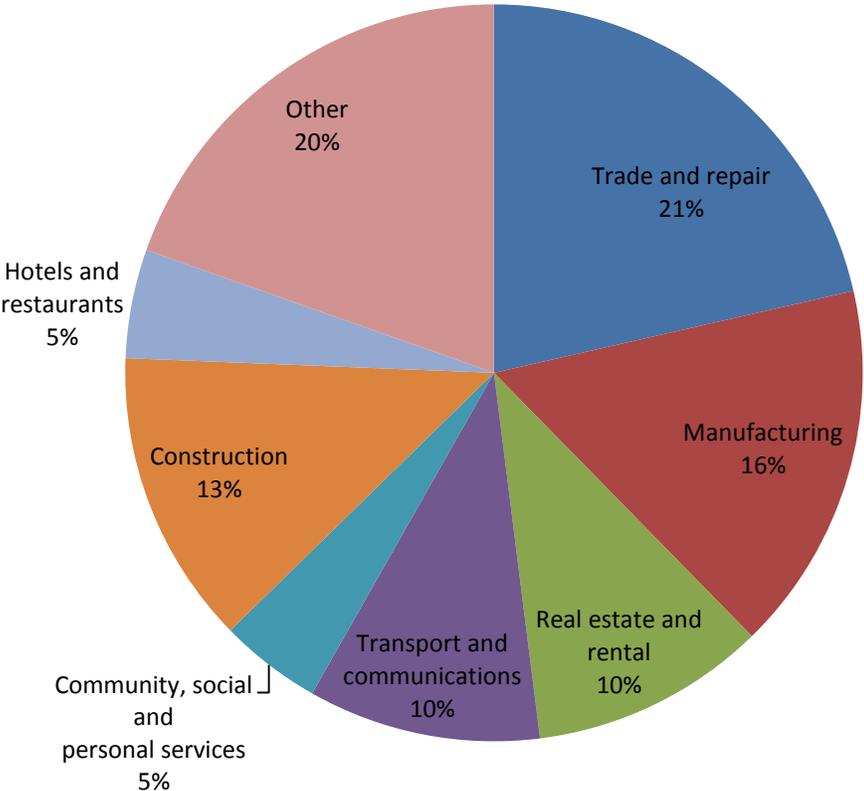
Ref: Geostat (2013), Exports by Category

As one can see, the combination of ferroalloys, fertilisers, steel and cement is already 28% of total exports (excluding cars), and that does not include aircraft parts, railway carriages, steel pipe, plastic products and many manufacturing subcategories that are not big enough individually to be included in the separate categories.

In terms of employment and poverty alleviation, the sector is also vital.

² Cars are not included in the exports listed here because the import and export of cars into Georgia seems to be a statistical oddity. At best, this reflects a low value-added retail business.

Figure 3: Sectoral Breakdown of Employment (from 1/2 million people employed in registered and active businesses) (2011)



GeoStat, Entrepreneurship in Georgia (2012), p. 108

Manufacturing industry is responsible for 16% of formal private sector employment, or around 80,000 jobs.³ If we assume that each of these jobs is supporting an average-size Georgian household of around 4 people, then this sector could be directly supporting 320,000 people or 8% of the population. If we furthermore assume that the cash salaries have significant regional multiplier effects on the local economy, the overall impact of manufacturing could be far higher.

2 Current composition of heavy manufacturing industry

It is hard to gain a clear national picture of the importance of heavy manufacturing because, generally, GeoStat does not publish data that is disaggregated in sufficient detail to see the value added of each sub-sectors. Below is a breakdown of the main sub-categories, as presented by GeoStat and as subsequently explained in discussions with GeoWel in early 2013.⁴

³ Note that the employment figures presented below only include those in formal employment. They do not include the self-employed, most notably farmers.

⁴ The main categories provided here come from the most detailed publication provided by GeoStat. The ‘additional information’ results from discussions with GeoStat and are provided as informal estimates.

Figure 5: Breakdown of manufacturing sector

Category Description ⁵	Added-Value million (GEL)	Percentage of total GDP	Additional information provided in discussion with GeoStat
Metal and metal products	563.4	2.5%	This is nearly 85% ferroalloy (manganese)
Chemical products and non-metallic mineral products	517.5	2.3%	55% non-metal construction materials and 40% chemical products (fertilizer and pharmaceuticals)
Paper products, textiles, wood paper and printing	301.0	1.3%	20% textiles and 45% publishing and printing
Transport and manufacturing equipment	198.4	0.9%	Nearly 50% railway and 30% furniture

Reference: GeoStat (2013), Gross Domestic Product at Current Prices by 45 Activities (2012) supplemented through discussion with GeoStat.

It is worth comparing the size of these sectors to other sectors that gain a lot of discussion in Georgian discussions of economic development.

Figure 4: a couple of indicative sectors (for comparison)

Category	Added Value million GEL	Percentage of total GDP
Post and telecommunications	676.9	3.0%
Financial intermediation	633.5	2.8%
Restaurants, bars and catering	416.7	1.9%
Growing of cereals and other crops	272.2	1.2%
Manufacture of alcoholic beverages	205.6	0.9%
Growing of vegetables, horticultural specialities and nursery products	141.2	0.6%
Hotels	140.7	0.6%

This comparison should give some indication of how large the manufacturing sectors are relative to other important sectors in the economy, which often get discussed far more. Metal and metal products (which is 2.5% of value added) and the construction materials/chemicals sector (worth 2.3%) are similar in size to the entire telecoms sector (3%) or the banking sector (which is 2.8%).

Both of these sector are significantly larger than the entire ‘restaurant, bar and catering’ (1.9% of value added). Similarly, at around 0.5% of value added, the railway manufacturing sector is about the same size as the entire hotel sector (0.6% of GDP). Even without manganese, the steel processing sector is 0.37% of GDP, which makes it more than half as large as the entire hotel sector.

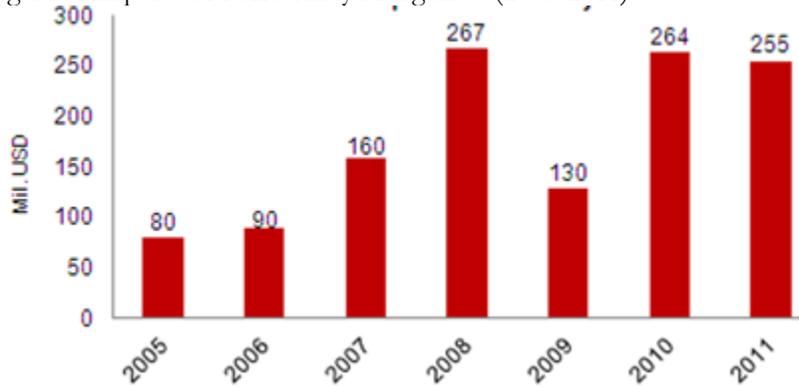
In the discussion that follows, we will consider each of the key manufacturing sectors individually, to provide a quick overview of each. This list is not intended to be exhaustive, but should be indicative of the heavy manufacturing sector as a whole.

⁵ Note that these are not the official category descriptions provided by GeoStat, but are intended to provide greater explanatory clarity than the official categories, which are often confusing.

2.1 Ferroalloys Industry

Ferroalloy manganese is, as its name suggests, an alloy of manganese and iron. As we already highlighted, ferroalloy manganese is Georgia's largest exports. Mining and processing of ferroalloy, according to discussions with GeoStat, also makes up around 85% of the GEL 500 million in value added in basic metal production.

Figure 5: Exports of Ferro-Alloy Manganese (2005-2011)



Reference: GeoStat

Manganese mining and processing largely takes place utilising industrial infrastructure built during the soviet period, though there are some smaller manganese processors in Georgia that have been built more recently.

Manganese is mined in Chiatura plant, by Georgian Manganese, LLC whose holdings includes the Chiatura manganese mine, Zestafoni ferro-alloy plant, and Vartzikha hydropower. Installed production capacity of Zestafoni ferroalloy plant is 185,000 tons per year.

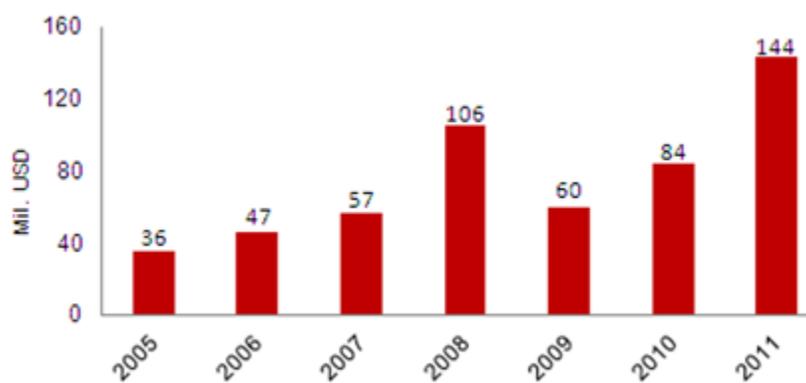
The company extracts ferroalloy manganese as well as manganese ore-concentrates and manganese oxide, they then process some of the manganese in the Zestafoni plant. Chiatura manganese mine includes 4 mines and 3 open quarries. According to "Felman Trading Inc.", who sell manganese from the mine in the US market, the total output of Manganese ore is 1.18 million tonnes and manganese concentrate is 0.4 million tons per year. Preliminary desk research uncovered a reference to Chiantura mine from 1974 when it was believed there was a supply of 239 mln tones, or 160 years worth at current production levels.

2.2 Fertilizer Industry

As we have already seen, fertilizer is Georgia's second largest export and, like manganese, relies on the utilization of former soviet industrial capital infrastructure that, while probably inefficient by modern standards, would be enormously expensive to build from scratch.

The supplier of the product is Azot LLC which is the only major producer of fertilizers in the South Caucasus. The company is situated in Rustavi and it is fully owned subsidiary of Agrochim S.A. The company hires more than 2000 workers.

Figure 6: Export of Nitrogenous Fertiliser (2005-2011)



Ref: GeoStat (reviewed December 2012), Export of Major Commodity Groups

As one can see, production and exports dropped in 2009, as the result of the financial crisis, but have since then have surpassed their previous 2008 high, and are on track to grow further this year.

The technology used for the production of the fertilizer is heavy capital equipment built during the soviet period. This equipment fixes natural gas to produce a range of products, including Ammonia (400 000 Tn. Year), Nitric Acid (372 000 Tn. Year), Ammonium Nitrate (450 000 Tn. Year), Ammonium Sulfate (410 000 Tn. Year), Sodium cyanide (8 000 Tn. Year), Hanun (75 000 Tn. Year), Oxygen (78 300 Thousand m3), Dry ice (3 000 Tn. Year), Carbon dioxide (12 000 Tn. Year).

2.3 Steel processing sector

Steel processing is worth about 2.5% of GDP, when classified along with ferroalloy. Taken in itself, it is worth about 0.4% of GDP. As has already been mentioned, this makes it about 2/3 the size of the entire hotel sector. The sector is dominated by Rustavi based steel producers, which mainly consists of the large Rustavi Metallurgical Plant and GeoSteel, and a smelter in Kutaisi, owned by Eurasian Steel Ltd. In addition, there are several dozen small smelters across the country, mostly in the old industrial cities.

It is hard to be sure how many people are employed in the sector at the current time, but local experts estimate somewhere around 3000.

The steel sector in Georgia mostly consists in the melting and processing of scrap metal, though some parts of the industry also import particular grades of steel for the production of metal products. This makes the sector heavily exposed to scrap metal exports, as the more scrap is exported, the less is available for local processing.

Historically in Georgia scrap metal has been the bigger business. Until 2005 scrap iron was one of the country's principle exports, with much of the iron, ironically, coming from the scrapping of the Rustavi Metallurgical Plant processing infrastructure.

However, as Georgia's economy has diversified, and as the steel processing sector has grown, scrap exports have fallen. Scrap iron is now worth 3% of exports, and is slightly lower than processed steel bar (see figure 2). Rustavi Steel will be discussed in more detail below.

2.4 Cement Industry

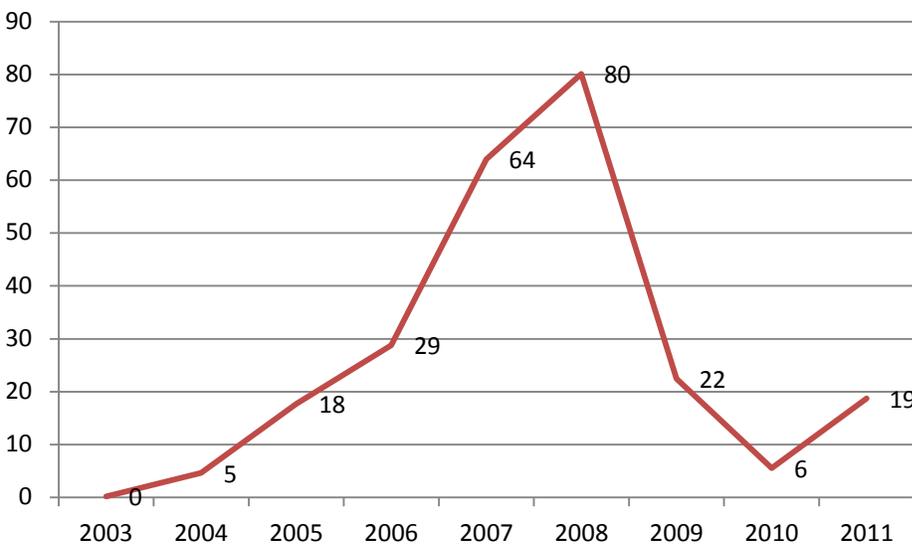
Another large contributor to GDP, with about GEL 250 million of added value, is non-metal construction materials. This is made up of a range of different materials that are extracted and processed, including lime, chalky soils, gravel and decorative stone.

Cement is particularly prominent. The two biggest cement plants are Kaspi Cement and Rustavi Cement, which are both 75% owned by Heidelberg Cement. The Kaspi plant is the first cement plant in Georgia, constructed between 1927 and 1931 years. The plant was restored between 2000 and 2006, and later on, merged with Rustavi plant under the common corporate name “SaqCementi Ltd”. After large capital investment, the production of two plants became 1.6 million tons per year.

Heidelberg Cement also acquired 70% of Kartuli Cementi Ltd in May 2006 and relocated a modernized plant from Kiefersfelden, Germany to its Rustavi site. This new plant started working in January 2008, and has a capacity of 400,000 tons of cement per year.

Interestingly, while added value for ‘non-metal construction materials’ remains high in Georgian national statistics, and Heidelberg cement has reported strong growth⁶, exports of cement have declined precipitously since 2008.

Figure 7: Export of Cement (2004-2011) million USD



Source: GeoStat, Georgian Exports by Commodity Groups (2000-2011), (Mil. USD)

The most likely account for the drop in exports has been strong growth in Georgia demand for cement, reflecting Georgia’s continued post-war government-financed rehabilitation of roads and urban infrastructure. This is also reflected in the expansion of Heidelberg Cement’s concrete operation. Heidelbergbeton Georgia Ltd was founded in August 2008 for the purpose of concrete production and opened plants in Ponichala and Gldani. Recently, they added to this with a new mobile concrete plant in Rustavi. Total capacity of all 3 plants is 240 m³/hr.⁷

⁶ Heidelberg Cement, Annual Report 2010, p. 54 and Heidelberg Cement, Annual Report 2011, p. 50.

⁷ Source of this information is Heidelberg Cement’s official web-site: <http://www.heidelbergcement.com/ge/en/country/home.htm>

2.5 Machine-building industry

In addition to the categories listed above, Georgia also produces a number of other steel and industrial products, particularly train parts, steel wire and airplane parts. Each of these businesses, like many of the sectors highlighted above, depend heavily on former soviet infrastructure.

The size of each of these sectors is hard to quantify exactly, particularly in terms of value added. However, they are each dominated by large firms, and one can gain an understanding of each sector by looking at the large firms.

Train carriages are principally produced by JSC Locomotive Maintenance Factory. They currently have 112 million GEL of orders and employ 2000 people in plants based in Tbilisi and Kutaisi. 60% of this business is for the local market, the rest is for export. At USD 17 million, in 2012, locomotives were 0.7% of Georgia's exports, and as such was the country's 24th biggest export, worth very slightly less than electricity exports.

The existence of train and carriage production in Georgia is largely a hang-over of industrial organisation in the soviet system as the soviets used particular countries to produce and maintain the railway capital materials needed in an entire region. As these businesses provided support for the huge rail system of the region, they were inherently large support-businesses. Georgia provided this support for Armenia and Azerbaijan, both of whom remain large customers. It has also provided large numbers of carriages to Turkmenistan.

The largest input for locomotive manufacturing is steel and while some of the steel components come from Rustavi the large steel sheets, which are used for the carriages, come from Ukraine.

Another transportation production from the Soviet times is airplane parts. Under the soviet system, Georgia built several different categories of aircraft, particularly the SU25 'frogger' fighter-bomber. Following the collapse of the Soviet system, the company responsible for this production, called TAV, ceased to produce completed planes but continued to maintain and upgrade the fleet of former soviet aircraft. This business, in the early 1990s provided Georgia with the currency necessary to import gas from Turkmenistan.

In 2004 airplane parts were Georgia's second largest export category, with a value of USD 84 million. This number seems to fluctuate fairly dramatically, year-to-year, but in 2012 Georgia exported USD 11 million of aircraft parts, making up 0.5% of total exports.

In addition to these large transportation manufacturing companies there are also a range of companies that make metal products. Sakcable, based in Zestafoni, uses Soviet-era cable-winding equipment (of course supplemented by recent investments) to make cable for the electricity transmission sector. Other companies of varying sizes, across the country, make wire, construction materials, nails and other basic metal goods. These sectors are collectively worth considering, as these are products which are largely imported (particularly from Turkey) and potentially ripe for import-substitution.

3 The Need for Industrial Policy

Having provided an explanation of the various ways in which manufacturing industry are important for the economy, it is worth considering why this sector may be particularly suitable for governmental support. Therefore, in the section that follows, we will briefly review the economic discussion over the role of the state in economic development planning.

This assessment draws two conclusions. One, that there are strong voices in the economic development community that believe governments need to play a significant role in economic planning. Second, the economics literature seems to suggest that sectoral support should only be provided to those sectors which have the opportunity of facilitating structural change in the economy. These sectors should produce tradeable

goods, should have opportunity for increasing value-added and should be employment intensive. As we will show at the end, all of these characteristics apply to the manufacturing sector.

3.1 The role of the state in economic development

The new millennium has seen a re-awakening of the debate over the role of the state in economic development. Largely driven by the failure of economic libertarianism in Latin America and some parts of Africa, thinking about ‘new industrial policy’ has focused on the way in which state intervention is often needed to facilitate positive structural changes in the economy and encourage the growth of export-oriented high value-added sectors.

Georgia’s experience since 2004 seems to support the argument that libertarian reforms are not enough. The former UNM Government supported a wide range of market reforms which included mass privatisation, the reduction in the number of government employees, the reduction in government regulations and the number of taxes and dramatic unilateral trade deregulation.

These reforms, combined with mass privatisation, government spending on infrastructure and a dramatic increase in FDI, helped encourage economic growth. However, this growth was most prominent in the non-tradeable sectors, like construction, utilities and retail. In comparison, the sectors that produced tradeable products, particularly industry and agriculture, were given relatively little attention.

As a result, in spite of the growth that the post-2004 stimulated, the country was left with two major problems. First, the growth created by the boom years did nothing to improve the unemployment situation. In 2007, at the height of the boom, unemployment had only dropped by 0.5%, from 13.8% to 13.3%. In 2012 it was 15%.⁸ Second, perhaps even more significant, the vast majority of the work-force, continued to be ‘employed’ in extremely low-productivity sectors like agriculture and retail. Many of this group are so unproductive they could hardly be said to be employed at all. According to one World Bank estimate, the average income of those working in agriculture is estimated to be around 20% of those of salaried urban workers.⁹

Second, the structure of the growth from 2003-2008 ensured that imports rose far faster than exports, as shown below.

⁸ All of the unemployment figures are based on the very liberal definition of ‘unemployment’ that is utilized by GeoStat. By the GeoStat definition, anyone who engages in one hour of economically productive activity in the last week, is deemed ‘employed’. By this definition, for example, an individual who milks one cow every day would be considered ‘employed’. This definition is consistent with one of the International Labour Organisation’s definitions of employment. But, it means that practically, unemployment is probably a lot higher.

⁹ World Bank (2009). *Georgia Poverty Assessment*, p7

Figure 8: Balance of Trade Deficit 2003-2012



Source: GeoStat (viewed 2013), Georgian Exports and Imports 1995-2013

Between 2003 and 2008, the difference between imported and exports rose from a deficit of \$678 million to \$4.8 billion. This declined briefly in 2008 and 2009, but in 2012 stood at \$5.5 billion. This is the equivalent of 1/3 of GDP. This is one of the biggest structural weaknesses of the Georgian economy, and correcting it presents one of the biggest challenges to the new Georgian Government.

In most public policy discussions three sectors are seen as providing the greatest opportunity for fixing the problems of unemployment and trade; agriculture, energy and tourism. Energy and tourism were already the focus of attention of the former government, with considerable public financing supporting the construction of new power-lines to connect to Turkey and public finance directly supporting the renovation of tourist destinations like Tsignagi in Kakheti, Mestia in Svaneti and Batumi in Adjara..

More recently the former UNM government, and the new Georgian Dream government, have focused considerable attention, money and effort on agriculture. This has taken many different forms. The UNM government started a number of government-run companies to improve input supply in the sector, the new government have given direct farmer subsidies through a voucher system, have helped to provide subsidised loans and are in the process of starting an investment fund to directly support agriculture.

Each of these sectors has definite merits, but it is worth noting that both the energy sector and tourism are very much less important to the economy than heavy industry in terms of GDP, exports and employment. Agriculture, on the other hand, is clearly a massive employer and, by producing tradables, could help to correct Georgia's trade situation. However, the structural weaknesses of the Georgian agricultural system are many and complicated, and it will take a long time before government efforts are able to turn the sector around.

Heavy industry is probably the only area of the Georgian economy that combines high employment, proven export potential, as well as considerable opportunity for large investment and rapid export-oriented growth.

In the section that follows, this paper will consider in a little more detail, the reasons for the renaissance in thinking about industrial policy, the reasons why this would apply to the Georgian industrial sector and the types of government partnership that the new industrial policy might envisage in this context.

3.1.1 The Renaissance of Industrial Policy

In the 1980s and 1990s, the belief that governments should work with business to support key sectors, sometimes called ‘industrial policy’ fell out of favour both in academy and large development organisations around the world. The so called ‘Washington Consensus’¹⁰, espoused by organisations like the World Bank and the IMF, suggested that the governments of developing countries should focus on fiscal and monetary discipline, privatisation, trade liberalisation and tax reform. This policy allowed a minimal role for government involvement in economic planning. Summarised by its proponents, this position argues that, ‘Once a developing country government establishes the rules to a fair game and ensures their enforcement, it will be well advised to stand back and enjoy the self-generating growth’.¹¹

However, in the past two decades there has been renewed interest in industrial policy in the development community. Economists like Ricardo Hausmann and Dani Rodik, from Harvard and Ha-Joon Chang from Cambridge have pointed out that countries which most aggressively adopted the libertarian Washington Consensus reforms in the 1980s and 1990s, have enjoyed lower rates of growth than those who have maintained the role of government in economic planning. For example, since the 1990s Latin American countries have experienced poor growth, even though they adopted some of the most neoliberal mix of open markets, free floating exchange rates, low debt and privatisation.

Conversely Asia’s more interventionist model has produced an ‘economic miracle’ that would have been impossible to believe 30 years ago.¹² In addition, at the same time as growing fast, East-Asia has been extremely effective in increasing employment in higher value-added sectors. This has seen a dramatic reduction in poverty in the region over the last 30 yrs. For example, China’s rapid growth since 1980 has seen 400 million people move out of poverty.¹³ This is around 2/3 of the global total reduction in poverty over the same time.¹⁴

In explaining why the more interventionist model has worked better, economists Hausmann and Rodik argue that, in order to develop, countries need to innovate in more highly value-added goods. Ideally, these goods will be tradeable, with clear opportunity for export. Unfortunately, they believe that this kind of transition in the developing world, is extremely hard to achieve through markets alone as the process is hampered by market failures.

They argue that the market failures make it almost impossible for countries to transition into the tradable high-value goods without support. These interventions can include public-private partnership, infrastructure support, input subsidy or short-term market protection.

It is also important to note that the new proponents of industrial policy are not suggesting a return to centralised planning. There is a strong consensus amongst academics and practitioners that market reforms

¹⁰ The term was first coined to describe the consensus of policy making suggested by large development organizations, particularly IFIs. John Williamson (1989), ‘What Washington Means by Policy Reform’, in John Williamson (ed), *Latin American Readjust: How Much Has Happened*, Institute for International Economics, Washington DC. The term was then expanded to include the role of governments in protecting certain kinds of institutions.

¹¹ John Talbott and Richard Roll (2001), ‘Why Many Developing Countries Just Aren’t’, Finance Working Paper No19-01, The Anderson School at UCLA,

¹² These arguments are laid out in many different books and articles, but can be seen in Ricardo Hausmann and Dani Rodik, ‘Doomed to Choose: Industrial Policy as Predicament’: Harvard Institute for Economic Development, Ha-Joon Chang (2006), ‘Industrial Policies in East Asia: Lessons for Europe’, European Investment Bank Papers, Vol 11, No 2, Dani Rodik (2007), *One Economics, Many Recipes: Globalization, Institutions and Economic Growth* (Princeton University Press) and

¹³ Dani Rodik (2007), *One Economics, Many Recipes: Globalization, Institutions and Economic Growth* (Princeton University Press)

¹⁴ UNDP (reviewed 2013), Fast Facts: Poverty Reduction

(http://www.undp.org/content/undp/en/home/librarypage/results/fast_facts/poverty-reduction/)

like privatisation and strong monetary management are essential. However, they believe that these market reforms need to be supplemented with government interventions, if market failures are not to restrict investment in key sectors.

The exact nature of the interventions suggested by the new industrial policy is, of course, highly dependent on context and an entire literature of 'binding constraints analysis' has focused on providing strategies for identifying and fixing those constraints. However, some broad principles do apply. Interventions should occur in the tradable sectors, where the country has a clear comparative advantage, and they should be short term.

In the section that follows, we will discuss why this form of policy is essential for the Georgian industrial sector, and suggest some areas where it might apply.

3.2 Forms of industrial policy

This paper is arguing that the time is ripe for a broader reconsideration of industrial policy in Georgia, and that on the face of it, the heavy manufacturing sector would be an obvious focus for attention. In this section the paper will explain why support could be particularly valuable for the industrial sector and will offer some suggestions about what that support may look like. In the final section, we will briefly consider the case study of the steel sector to see the benefits that further government support could bring.

There are four main arguments for focusing government support on the needs of the industrial sector. First, growth in this sector will be inherently employment-creating. The benefits of the employment generation are obvious. Employment is not just the biggest priority for the government and people, it is also inherently socially enabling and creates self-perpetuating positive economic feed-backs. Of course, the numbers who could potentially be employed in industry, are smaller than the numbers in agriculture, but the difference between the two sectors is that the jobs in manufacturing are good salaried positions. These could, in the short-term, offer a fairly immediate path to economic prosperity for those employed in the sector, as well as their extended families and the other businesses where they spend their money.

Second, growth in the sector would be export oriented. Export orientation brings several benefits. First, exporting sectors are not constrained by growth in local demand, therefore they can be 'engines for growth'. Non-exportables, like construction, generally only grow faster than the economy if they create bubbles. In addition, exported industrial goods can become increasingly value-added, far faster than goods produced for the local market, because local demand for goods is likely to change slowly. Finally, and perhaps most importantly, increasing exports would help the Georgian economy to fix its unsustainable balance of trade problem.

Third, there is considerable opportunity for growth, based on more effectively utilising Georgia's comparative advantage. Georgia has comparative advantage in the sectors discussed above as the result of a combination of natural resources and existing production and support infrastructure. This works out differently in different sectors. Georgia was a large steel producer in the soviet system and some of the capital infrastructure for smelting steel and producing seamless steel pipe is still in place. The same can be said for manganese processing, fertilisers and the production of railway parts. For Azot, cement and other building materials, comparative advantage also comes from an abundance of resources that can be extracted from the ground. Georgia also enjoys fairly inexpensive electricity, particularly when compared globally, as well as abundant water supply and cheap labor.

Fourth, government support in the sector is crucial because a range of market and structural failures make it unlikely that the opportunities will be realised if companies work alone. Informational externalities, coordination externalities and input price variations are particularly problematic in some sub-sectors. In

others, companies simply need short-term support so that they can build (or in many cases rebuild) the company to the point where economies of scale are sufficient that they can compete in a global market.

As a result companies need support in the short-term, if they are to thrive and expand in the long-term. The exact nature of the support that is needed will differ from company to company.

4 Case Study: Rustavi Steel

The easiest way to see the opportunities in the heavy manufacturing sector is to look at particular examples of businesses that represent those opportunities. In this section we will conclude the analysis by considering the case of Rustavi Steel to highlight both the opportunities for the sector and the benefits that greater government focus on this area could bring.

Rustavi Steel currently employs 2000 workers and engages in two main activities; the processing of scrap metal into square ‘billets’ and rebar and the production of seamless steel pipes. At the current time, the factory produces goods valued at around \$80 million annually, or \$45 million of steel processing and \$35 million of steel pipe production.¹⁵ In the first 5 months of 2013, exports accounted for 62% of revenue.

The plant was officially established in 1948 and production peaked in the early 1970’s, when 12,000 workers were employed producing an average of 1.5 million tonnes of steel per year. The plant was closed after the fall of the Soviet Union and lay dormant for over a decade, during which time much of the physical infrastructure was cut into scrap. In 2005 it was bought by Badri Patarkatsishvili and is now owned by a Georgian company, Rustavi Steel LLC, which is in turn owned by Badri Patarkatsishvili’s heirs.

The scrapping of considerable quantities of infrastructure represented a huge loss to the Georgian economy. However, considerable infrastructure remains including one sinter plant, one blast furnace, two seamless pipe mills and one small capacity rebar rolling mill. In addition, since 2005, the company has introduced three small induction furnaces and a continuous caster.

In addition, the facility is extremely well connected to the Georgian energy and transportation grid. The plant has a train-line running through it, which connects to the main cross-country line and it also has high power electric power lines, which allow it to draw large quantities of energy directly from the Georgian power grid.

The company has essentially three components to their growth plans. First, they are quickly increasing steel production. The first stage of this is a \$10 million investment in the steel melt shop that is currently being implemented. This has seen production double to 72,000 metric tonnes per year in 2012 and should see increases to 100,000 metric tonnes in 2013 and should reach 250,000 metric tonnes by 2015.

Second, they are increasing the production scale and quality of seamless metal pipes. The large diameter seamless pipe mill 400 was put into operation in 2012 after being idle for almost 20 years. It has a capacity to produce 350000mt pipes an year. In 2012 this produced 8000mt of pipes and is expected to produce 50,000mt in 2013 and 100,000mt in 2014. After that, output can gradually increase to 250,000mt per year in subsequent years, depending on demand and market development. At the same time the small diameter seamless pipe plant is expected to start and expand and is intended to ultimately produce 120,000mt per year.

¹⁵ The company’s turnover is actually around \$50 million but this number generates a distorted image of their activities. At the current time seamless steel pipes are produced under a service contract and produce \$5 million revenue for the company, but the company produces \$35 million dollars worth of the seamless steel pipe. Therefore the value of total production is \$80 million.

The third element of growth includes a new caster to produce large and small round iron billets which are needed for the production of the pipe. This will dramatically increase the value-added of the operation and decrease or eliminate their dependence on imported iron. It will also bring back into operation other existing and currently unutilised capital infrastructure. When the pipe mill reaches full capacity Rustavi Steel will be exporting 90% of its production.

Finally, the growth plans call for the Sinter Plant and Blast Furnace Complex (BFC) of Rustavi Steel to be restarted. This would require \$175 million USD of investments over a two year period. It requires the successful negotiation of long-term contracts, with Azeri iron ore suppliers or other ore suppliers in the region. But it would result in pig iron production of 600-650,000 metric tonnes per year, with a value of up to \$300 million. With the start of pig iron production, dependence on scrap for the whole plant will reduce.

That said, once the plant reaches this level of output, economies of scale may also encourage the import of scrap iron from countries like Kazakhstan. This processing could also produce value-added beyond the levels of scrap currently being produced in Georgia.

The benefits of this plan are immediate and obvious. These plans could generate new direct employment of 2,000 people with many more additional jobs being created in support industries, particularly transport and logistics. In addition, not only will this plan represent around \$200 million of foreign direct investment to implement, it will also create a huge scale of exports. If the steel pipe mill achieves the specified long term production targets, then that could annually produce 600,000 tonnes of pig iron, 75,000 tonnes of rebar and 250,000 tonnes of steel pipe per year, with an annual turnover of more than 500 million USD.

However, for this business plan to work in the long-term it needs to be profitable in the short-term. This could be damaged by any number of factors including the increase in price of local scrap, electricity or transport costs, or by a sudden influx of new producers.

Similarly, the growth plans are in various ways dependent on coordination with the government. For example, the railway system and the ports need significant new investments if they will be able to keep pace with significant upgrade of any of the large industrial producers. In the case of steel, the system will need to support significant transport of not only finished product, but import of ore and coal/coke for smelting. The volumes will be considerable.

Each of these factors is either under the direct control of the government, or they are affected significantly by government policy. Therefore, it is clearly important that the sector is engaged with the government in the discussion about any changes to these policies, to ensure that in any particular instance, the government does not make develop policy which will generate short-term benefit, but will damage a hugely lucrative sector in the long-term.

Finally, the most important support that the Georgian Government can give to the sector is far less tangible. With all of the problems of coordination between input and supporting sectors and all of the uncertainties in negotiating and implementing large investment plans of the kind discussed, the government needs to do all it can to mitigate these uncertainties.

In the first instance this will, of course, simply involve the appropriate statements of confidence, interest and support in the sector. This is already starting to happen. Second, it would be a good material show of confidence if, when discussing some of the many funds that the Georgian Government has under consideration, they highlighted that heavy industry would be an interesting area to support. Finally, and perhaps most important of all, large industrial companies need to be included in the discussion of Georgia's emerging economic development plans.

In order to ensure that this happens, the government should probably ensure that large industrial players are included in the any advisory structures that the Ministries create for the discussion of economic development strategy. For example, in February 2013, under at the direction of the Prime Minister, line Ministries started the process to formulate a national development plan. Any group that is formulated to work on this plan should definitely include representatives from heavy manufacturing industry.

Similarly, it is the opinion of this paper, that it would be worthwhile for the government to convene a regular forum for the regular broad discussion of industrial policy. From the side of the sector, it will probably be useful for members of the sector to coordinate and form an Association of Industrial Companies to discuss between themselves the challenges that the sector faces and offer common suggestions. This will allow for the gradual development of a genuine government-industry partnership.

Manufacturing industry is already, in many ways, Georgia's most import economic sector. It also offers the greatest likelihood for export-oriented and job creating economic development in the short to medium term. These facts have often been missed by Georgian politicians because the sector is sometimes seen as a legacy of a Soviet-past that the country would rather forget. As a result, opportunities have been missed and valuable manufacturing infrastructure has been decimated by short-term thinking. To correct for these mistakes and to take advantage of its inherent strengths, the sector will need support and cooperation from the government. But, if this is forthcoming, Georgian industry will be able to create jobs and opportunities for the whole economy.