

THE GEORGIA FORECAST™ and Three Imperatives for Economic Growth

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Abstract

Research reveals three imperatives for the growth of national economies: education, health, and technology. Growth requires a well educated population to do the nation's work. Workers must be in good health in order to be productive. But even well educated and healthy workers need technology in order to leverage their efforts. While these three imperatives are common conditions for growth, rational government policies are required for these factors to function. A new set of forecasting models, THE GEORGIA FORECAST™, indicate that near- and long-term prospects for Georgia's growth are bright. These prospective outcomes may be enhanced by rational, economically efficient and equitable adjustments in policy.

ეკონომიკური ზრდის 3 იმპერატივი

ედუარდ რაუპი
საქართველოს უნივერსიტეტი

ნაშრომი წარმოადგენს ეროვნული ეკონომიკის განვითარებისა და ზრდის განმაპირობებელ 3 ფაქტორს: განათლება, ჯანმრთელობა, ტექნოლოგია. განათლებული საზოგადოება ეროვნული საქმის სამსახურში წარმატებული ეკონომიკური ზრდის განმსაზღვრელია, მოქალაქეების ჯანმრთელობის ხარისხი კი პროდუქტიულობისა და სამუშაოს ეფექტურად შესრულების პირდაპირპროპორციული. თუმცა დღეს, მხოლოდ ადამიანური რესურსი და ჯანმრთელობა არ არის საკმარისი დასახული მიზნის მისაღწევად. განათლება და ჯანმრთელობა უნდა გამყარდეს ტექნოლოგიური უზრუნველყოფით. ხელისუფლებამ მიზნად უნდა დაისახოს ზემოხსენებული სამი მიმართულების განვითარება. პროგნოზირების ახალი მოდელები, THE GEORGIA FORECAST™, მიანიშნებენ, რომ საქართველოს ახლო და გრძელვადიან გეგმებს ნათელი მომავალი აქვს. სასურველი შედეგი მიიღწევა პოლიტიკაში ეროვნული, ეკონომიკურად სწორი და რაციონალური ცვლილებების შეტანით.

A substantial body of research suggests that there are three imperatives for the growth of any economy. These are Education, Health, and Technology. This paper will suggest a fourth imperative, and the reader may consider others, as well. But these are the three that seem to be common across nations and across time.

Fifty years of research in Development Economics reveals to me the following 3 realities:

First, the growth of any economy depends on a well educated population (Barro & Lee, 2000; Becker, 1993; Beherman, 1987; Krueger & Lindahl, 2001; Psacharopoulos, 1994). This means universal primary and secondary education and tertiary education that prepares people for leadership and the professions.

The great teacher and statesman, Julius Nyerere, Founder and First President of Tanzania, said that education should be universal, high quality, relevant, and socially responsible (Nyerere, 1999). This is the obligation of all of us who are involved in education at all levels.

Second, even a well educated population must be in good health if they are to be productive (Alleyne, 2001; López-Casasnovas, Rivera, & Currais, 2005).

In terms of economic growth, we may use measures such as life expectancy, quality of life, and public health statistics.

Third, even a well educated and healthy population needs technology to leverage their efforts (Marshall, 1890/1920; Mokyr, 1990, 2005).

Technology starts with ideas. One of the most recent schools of thought in the area of development economics is called “Idea-Based Growth Theory” (Jones, 2004).

Ideas must be nurtured in an economy with a strong research program.

And research leads to the kinds of infrastructure that a society needs in order to improve the wellbeing of its people.

Every first-year student of economics understands that economies grow by using natural, human, and capital

resources. These are commonly the bases on which development economists build their models and do their analyses.

Georgia enjoys an abundance of two of these resources, and the third is on a steep growth curve. Georgia is in the temperate zone, situated in the strategically important Silk Road Corridor, with 310 km of coastline, most of which is fit for warm water ports. The CIA Factbook (2007) lists among Georgia's key natural resources its forests, hydropower, manganese deposits, iron ore, copper, and minor coal and oil deposits. A coastal climate and fertile soils allow for important tea and citrus growth, as well as many kinds of fruits, nuts, and vegetables.

Georgia also has an abundance of well educated human resources, with an adult literacy rate approaching 100 percent. The rate looks the same for males and females. This comes as no great surprise, but it is commendable and certainly different from many nations around the world, where females are systematically excluded from schools.

Primary and secondary education is mandatory in Georgia, and tertiary education in Georgia is undergoing what might be termed "robust reform." To a significant degree, it does appear that the reforms reflect a concern for the kind of clean governance that is essential for economic growth and a well functioning democracy.

Moving from the First Imperative, Education, to the Second, Health, we can look at Life Expectancy, Quality of Life, and Public Health as measures of health and wellness. The reader may want to suggest other measures, and one would not object.

The idea here is to find those factors that can tell us whether the population in general, and the labor force in particular, are healthy enough to do the nation's work. The measures we will use here are Life Expectancy, Quality of Life, and general Public Health.

Looking first at life expectancy, Georgians have a fairly high average of life expectancy: 76 years. Men can be expected, on average to live 73 years. Women outlive men on average by 7 years.

The King of Bhutan measures quality of life using a statistic called “Gross National Happiness” (Kinga, Galay, Raptan, & Pain, 1999), but most economists prefer Gross Domestic Product per capita.

There is a strong positive correlation between the two. The data show that people in low-income nations may be happy or unhappy, but overwhelmingly there are few rich nations with a low level of happiness (World Values Survey, 2007).

Georgia’s GDP is about \$18 billion , and GDP per capita is around \$4,000. Real GDP growth (that is growth with inflation taken out) is between 12 and 13 percent, one of the highest in the world (CIA, 2007).

The high growth rate may be misleading, as more than half of Georgians live below the poverty line. And the growth is mainly concentrated in Tbilisi, with the regions largely languishing in a no-growth state.

In the area of public health, the HIV/AIDS rate in Georgia is less than 1/10 of 1%. That’s the good news. The bad news is that many people suffer from the effects of smoking, alcohol, and reckless driving.

Smoking is Georgia’s Public Health Enemy Number One. The World Health Organization estimates that fully 60% of adult Georgian males smoke.

Although the female smoking rate is one-quarter of this figure, the bad news is that 30 percent of young boys smoke. It’s likely that these boys, and many of their non-smoking friends, will become adult users.

We don’t need to dwell on the harmful effects of smoking, and Georgians know them, everything from digestive and neural disorders to complications of pregnancies and neo-natal problems to early death.

And, despite the claims of the cigarette companies, “TOBACCO SMOKING CAUSES CANCER.” There is no longer the slightest doubt. Cigarettes and other forms of tobacco use cause 30% of all cancers and 90% of lung cancers.

The point is this: Nations need healthy people to grow healthy economies.

Now about alcohol. Here's a surprise: The UN's Food and Agriculture Organization reports significant declines in adult per capita consumption of alcohol in Georgia.

There have been declines in the total amount of alcohol consumed during the period 1990 to 2001. Beer consumption is up very slightly, but hard liquor is down, and total alcohol consumed in the form of wine is down sharply over the past 10 years. Alcohol is still a problem, however, especially when it's combined with driving. All young drivers are at higher risk than adults for fatal crashes, but the odds are even greater for drinkers.

Again, I make the point that if our young people are dying in car crashes, it has a negative effect on the economy as well as a devastating effect on families.

What can we do? To start: "BUCKLE UP!"

Now let's move to the Third Imperative, Technology.

Georgia's capacity to generate ideas and conduct research in the modern era has yet to be tested. One area in which Georgia does have a proven record of world class ideas and research is the Eliava Institute of Bacteriophage, Microbiology, and Virology in Tbilisi (Georgian Academy of Science, 2007). Throughout the world, the subject of drug-resistant bacteria – or "superbugs" – is rising to a crisis concern. Eliava Institute's technologies are truly world class and have great potential for expansion to Europe, North America, Asia, and other locations.

Georgia's infrastructure has been in decay for more than a decade. It will take many more years and billions of dollars in civil engineering projects to restore the nation's infrastructure, but here, too, there are signs of progress. Especially noteworthy are the new 4-lane highway to the west, a new airport in Tbilisi, and improvements in Batumi and Borjomi.

Georgians are leapfrogging technology in communications by using mobile phones and the Internet. At last count,

there were more than 1½ million mobile phones, over 11,000 Internet hosts, and more than 175,000 Internet users (CIA Factbook, 2007).

Now let's do a little forecasting.

A number of very large forecasting organizations are at work around the world. US-based Global Insight, UK-based Consensus Economics, and others tend to focus on the really big economies: the United States, Japan, China, and European Union, for example. But they don't pay much attention to the Georgian economy. As late as the fall of 2007, Global Insight was forecasting a real GDP growth rate for Georgia of 8.9 percent for the full year of 2007, this despite an actual rate of 12.5 Percent in the first six months. Consensus Economics was even more pessimistic, forecasting a growth rate of just 7.2 percent for the entire year. (N.B. Global Insight adjusted their forecast upward to 11.2 percent in November.) The difference between 7.2 percent and 12.5 percent is a whopping 74 percentage points. No organization in Georgia would be able to rely on forecasts with such a variance; in short, such forecasts are simply useless.

This demonstrates that there is a clear need for a Georgia-based econometric forecasting capability. Such a capability is under development at The University of Georgia, *Sakartvelos Universiteti*, in the form of THE GEORGIA FORECAST™ (TGF). This is a group of over 120 students and professors with the mission of conducting and publishing research that will assist decision makers in the economic development of Georgia. TGF is an Ltd. associated with the Advanced Research Center of The University of Georgia and is governed by its own Board.

The model starts with an extensive scan of the local, national, regional, and global environment. More than 60 students are Liaison Officers to foreign embassies, Georgian Parliament, ministries of the Georgian government, the National Bank of Georgia, government and non-government organizations, and commercial organizations. Liaison officers stay in touch with their counterparts and act as two-way communications media.

Added to the scan is a person-to-person monthly survey of consumers and producers in Tbilisi and Gori. As funds become available, the surveys will be extended to other regions. Respondents are queried as to their expectations.

Primary and secondary data are used by the model to forecast variables of interest, most notably, real GDP growth rate, employment, and inflation. Although the organization is currently focused on the Georgian macroeconomic situation, specific sectors are also in the queue for analysis, with sector specialists watching agribusiness, construction, energy, financial services, health systems, insurance, manufacturing, real estate, and tourism.

The model itself, while still under construction, is a modified dynamic, stochastic, general equilibrium model (DSGE). The modification comes from the fact that human intervention is applied, both to add the dimension of judgmental forecasting and to select from among different iterations in order to use that version that yields the smallest forecast error.

In its first published news release TGF, projected a real GDP growth rate of 13 percent for the full year 2007. In a few weeks' time we will measure our forecast error, but we believe we are fairly close to the mark with this forecast.

In addition to its scanners and surveyors, TGF has a staff of administrative, marketing, and technical resources consisting of over 50 students and professors.

There are reasons to be hopeful about the Georgian economy in the near-term and in the mid-term future. First of these is the solid growth of the economy, fueled by robust financial services and construction sectors. In the mid- to long-term, we have reason to be hopeful that the tourism and hospitality sector will add a third engine to the healthy, sustainable growth of the Georgian economy. Another reason to be hopeful is the growing interest by foreign investors, especially in the form of foreign direct investment. One cannot miss the signals being sent by Holiday Inn (192 rooms in 2008), Hyatt (183 in 2009), InterContinental (170 in 2010), Kempinski (250 in 2010), and Radisson (170 in

2009), to say nothing of Sheraton and Marriott, already in the upscale hotel market.

There is, however, as mentioned at the start of this paper, a Fourth Imperative, and that is *Rational Government Policies*. The Georgian government, since early in 2004, appears to have been following such policies. At least one piece of evidence is that the World Bank now considers Georgia to be one of the top 20 nations in the world to do business. A World Bank report states, “Georgia’s future is bright, and its high economic growth rate backed by political reform will continue to attract foreign investors in increasing numbers.”

There are a number of reasons to be hopeful about the prospects for growth of the Georgian economy.

First is what one might call the Law of Capital Flow: In short, capital loves low labor rates, and labor rates are low in Georgia. This will serve to attract capital in the near term.

Second is the Rule of 70: Divide 70 by a growth rate and you get the number of years it takes to double the underlying variable. Georgia’s economy is growing by at least 10% per year. Divide 70 by 10 and you get 7. In other words, the economy will double in 7 years. And this growth rate has been going on for several years and will likely continue at or about this level for at least a few more years.

Since the population is not growing, GDP per capita in another 3-4 years will be twice what it was a few years ago. The average Georgian will be more than twice as well off as he or she was at the start of this decade.

The third reason to be hopeful about the Georgian economy is what one might call the Crane Index. Put simply, one counts the number of building cranes in a capital city and finds the correlation between that number and the nation’s growth rate.

Some four years ago, a count showed about a dozen cranes in Tbilisi. Today, you can count more than that number in the Saburtalo area of Tbilisi alone, and there are similar numbers in Vake and other areas.

The fourth reason is the reforms that the Georgian Parliament has enacted over the past 3 years and that the government has pursued in that time. These reforms have had a dramatic impact on the kind of corruption that impairs economic efficiency.

Even with these four reasons to be hopeful, there are reasons to be cautious about the Georgian economy, as well.

First: While capital loves low labor rates, it flees instability. The worst possible thing that could happen to the Georgian economy – and to the people of Georgia – would be a civil war. The demonstrations of November 7, 2007, were not helpful in this regard.

The second reason to be cautious is that Georgia's low birth rates mean there will not be enough workers to take the jobs that will be created over the coming years. Unemployment will drop, but the economic growth rate will slow down unless there is a planned program of guest workers from other countries or return of Georgians from abroad.

The third reason to be cautious about the Georgian economy is that low levels of capital will result in declining growth rates, as the supply of loanable funds is exhausted.

Fourth: War would be catastrophic, but the situation with Abkhazia and South Ossetia today also causes investors to be nervous about making investments in Georgia.

Fifth: The high real growth is almost entirely in the capital city, with little growth in the regions.

Finally: The high rate of growth in Georgia is being largely fueled by two sectors: construction and financial services. Vano Chumburidze believes the construction boom will slow down in the near future. Let me quote him:

“Currently, the building sector is growing based on loans. When the banks ask their clients to pay back the loans and they are not able to give the money back, they will acknowledge that they cannot meet the increasing demands. As for flats, the banks will take them instead of

the money. Finally the construction sector will come under commercial banks' control."

He goes on to say, "When the population realizes what's going on and the banks start taking their flats as a guarantee, the price of property will go down."

I'd like to add that idle capacity in Kutaisi, Gori, Telavi, and other cities, as well as the villages, is both inefficient and inequitable.

One might like to see at least some of the building activity move to the regions to take advantage of the available resources and plan for a "soft landing" in Tbilisi as the building boom slows down.

Returning to the financial services sector, one would hope that the Parliament would give serious consideration to a national deposit insurance plan, with premiums paid by commercial banks based on their levels of deposits. Such a plan would likely attract a huge amount of portfolio investment from both Georgians and foreigners alike. An extensive network of bank examiners, working within carefully designed system of regulations could help to guard against the moral hazard problem of banks making risky loans.

There is ample reason to predict a bright future for the Georgian economy. The education reforms, hospital restructuring, and progressive government are just a few of the signs.

Still, one is hopeful that some attention will be paid to the regions, and that there will be greater diversification in the economy.

Our conclusions for the Georgian economy, albeit preliminary at this stage, are these:

- Continued robust growth over the next few years, provided there is no open conflict, progress is made in thawing the frozen conflicts, and a more diversified industrial and commercial structure is developed.

- Then the growth rate will slow down, maybe to the range of 5-7 percent.

- In the short run, as well as for the long-term wellbeing of the Georgian society, leaders must find ways to support an

economy based on peace, fairness, justice, and prosperity, not just for the few, but for all people throughout the nation.

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