

Good morning.

My name is Bruce Boghosian and I am the President of the American University of Armenia. It is my pleasure to welcome you this morning to the conference, "Mining and Socio-Economic Policy: Armenia's Choices." AUA is very pleased to be hosting this conference with the support of the United Nations Development Programme (UNDP), and also Counterpart International Armenia.

I would like to begin these opening comments by remarking on the role of universities in public policy debates. At its foundation, public policy is nothing more or less than collective action by a society or its government. Public policy is essential in order for society to act coherently. Good public policy advances the interests of all and makes the society's power and influence greater than the sum of that of its constituent parts. Bad public policy results in decisions that are costly and difficult to correct. It is sometimes challenging to detect whether public policy is good or bad because it tends to happen on very slow time scales. For this reason, academics study public policy carefully to establish best practices, learn from past successes and failures, and apply all our experience to make the best possible decisions in the future.

The director of Michigan State University's Land Policy Institute, Soji Adelaja, has eloquently pointed out [1] that there is some necessary tension between good public policy and free markets. Markets are exchange processes; policy is a political process. Markets deal with private goods and services; policy deals with public goods and services. Markets are driven by self interest; policy is driven by the public interest. In markets, business is the key institution; in policy, government is the key institution. In markets, the operating principles are efficiency, productivity and growth; in policy, the operating principles are equity, societal power, justice and fairness.

For all these reasons, the interface between business and public policy is complex and controversial at times. The tensions involved can not be addressed in a balanced fashion either by those representing purely business interests or by those representing purely policy interests. What is required is an unbiased third party with the capability of engaging in a complex decision-making process, and with cross-disciplinary expertise, and this is where the role of the university in public policy debate becomes important.

Public policy related to mining involves issues of business, economics, law, engineering, public health and environmental science. There are not many institutions with cross-disciplinary expertise in all those different areas, but you are sitting in one right now. Universities bring together researchers from many different fields who work together cooperatively to solve difficult problems. Universities also have a mission to and the expertise to educate, and, in the end, public policy issues are best resolved by educating the public. For all these reasons, universities have become critically important in the shaping of public policy in the West, as is evidenced by the existence of many famous institutions, such as the Kennedy School of Government at Harvard University.

Mining, or extraction industries more generally, have a tendency to lead to difficult public policy questions. While mining's environmental impacts in Armenia have been well documented, we feel that its socio-economic impacts in Armenia have not been adequately explored in an academic forum, and that is the reason for today's conference. Here is the problem: Deposits of ores have been laid down by Nature over geological time scales -- billions of years. Mineral ores are therefore part of the patrimony of a country. They belong to all the generations that have ever lived and will ever live on a piece of land. It is therefore a very serious matter for one generation to decide to be the one that will remove that patrimony from the ground and exploit it as a resource. Such a decision is neither obviously right or obviously wrong.

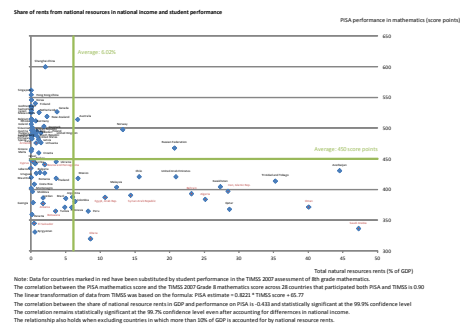
To those who say that mining is obviously wrong, there is the example of Botswana [2]. Since its independence in 1966, it has had the highest average growth rate in the world, averaging about 9% per year. The foundation of this growth was diamond mining, but the revenues from those mines were managed wisely with prudent fiscal policies, and ultimately the wealth was shared by the entire population of the country. Botswana is rated as the least corrupt country in Africa by Transparency International. Its standard of living today is comparable to that of Mexico or Turkey, and it has world-class free education and health care systems.

To those who say that mining is obviously right, perhaps because it generates jobs, there is the example of the

Ok Tedi Mine in Papua New Guinea [3]. This is an open-pit copper and gold mine which reduced an entire mountain to a hole in the ground. Because of a flawed environmental impact plan, tailing pool dams collapsed and the operators now discharge 80 million tons of tailings, overburden and mine-induced erosion into the river system each year. These discharges have caused enormous harm, both environmentally and socially, to the 50,000 people who live in the 120 villages downstream of the mine. Chemicals from the tailings have killed or contaminated fish, which are still eaten by the people of these villages. The river bed was raised 10 meters, causing it to become shallower and develop rapids, and disrupting transportation routes. Contaminated mud covered agricultural fields downstream from the mine, resulting in lost agricultural revenues. Meanwhile, a 2010 report by Human Rights Watch [4] found that Papua New Guinea's national revenues from its extractive industries, including the Ok Tedi Mine, had been widely dissipated through official corruption, without leaving any discernible positive impact on the wider population. The net effect of the mine was very negative.

Before I finish, allow me to change the subject somewhat: As an educator, I can not resist sharing with you the following slide, from the Organization for Economic Cooperation and Development (OECD) [5]. It is a data map of countries, plotting the percentage of GDP derived from extraction industries on the horizontal axis, versus their students' performance on the Program for International Student Assessment (PISA) exam on the vertical axis. The green lines are the mean values. The OECD concluded that there is "a significant negative relationship between the money countries extract from national resources and the knowledge and skills of their high school population." Basically, countries with more extraction industries tend to have worse educational systems. To quote K. R. Sridhar [6], the founder of the Silicon Valley fuel-cell company Bloom Energy, "When you don't have resources, you become resourceful."

Whatever the reason, the trend is unmistakable. Taiwan, which has almost no extractable resources whatsoever, has the best secondary educational system in the world. Armenia, still below mean for extractive industry revenue percentage, has an educational system that is well above mean; Azerbaijan, well above mean for extractive industry revenue percentage, has an educational system that is below mean. In fact, the only three countries that manage to be in the upper right quadrant of this figure are Australia, Norway and Russia. By contrast, there are 18 countries in the lower right quadrant.



Now, one must be careful about concluding anything from this. Correlation does not imply causation. It does, however, suggest common causation, and this can be difficult to avoid. If Armenia were to increase its extractive industry revenues as a percentage of its GDP, is it likely to follow the example of Australia, Norway and Russia, or is it more likely to follow the example of the 18 other countries in the lower right of this figure?

That is a rhetorical question. The answer will surely depend on the level of regulation, transparency and fairness with which Armenia's mineral resources are mined. This is a question of public policy. It is the kind of question that can be examined very effectively in an academic setting, and that will be examined by today's conference. We hope that this conference will be the beginning of a more sustained platform for such policy discussions in an academic setting.

Again, my thanks to UNDP and Counterpart International Armenia for their support of this event. I hope that you enjoy this conference and that the discussions here today will contribute to creating sound public policy with regard to mining in Armenia.

Thank you very much.

References:

- [1] http://www.aec.msu.edu/fs2/promisam_2/5_soiji_Universities_Policy_Research-Mali_Delegation.pdf
- [2] <http://en.wikipedia.org/wiki/Botswana>
- [3] http://en.wikipedia.org/wiki/Ok_Tedi_environmental_disaster
- [4] <http://www.bikyamasr.com/51812/ethnic-conflict-flares-over-chinese-nickel-mine-pollution/>
- [5] <http://www.oecd.org/education/preschoolandschool/programmeforinternationalstudentassessmentpisa/49881940.pdf>
- [6] As quoted by Thomas Friedman in <http://www.nytimes.com/2012/03/11/opinion/sunday/friedman-pass-the-books-hold-the-oil.html>