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**EXECUTIVE TRAINING AND UNIVERSITY EDUCATION: JOINING FORCES  
Building Russia's Creative Capital**

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**St. Petersburg, Russia**

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The expansion of higher education in Russia is an important foundation to creating additional innovative capacity, but it also contains an inherent risk that the curriculum provided by universities and the skill-set acquired by the graduates do not meet the actual needs of an economy. Fundamental new approaches to the education and continuous training of the workforce may be required, including broadening the possibilities for executive education.

**Moderators:**

**Yaroslav Kuzminov**, Rector, National Research University – Higher School of Economics

**Andrei Volkov**, Rector, Skolkovo Moscow School of Management

**Panelists:**

**Isak Frumin**, Academic Advisor, Institute for the Development of Education of the Scientific Research Institute of the Higher School of Economics, Lead Specialist at the World Bank

**Andrei Fursenko**, Minister of Education and Science of the Russian Federation

**Mads Ingholt**, Senior Director, Leadership Development, Group HR, A.P. Moller-Maersk

**Alan Kantrow**, Professor of Management, Visiting Scholar, MIT Sloan School of Management

**Valery Katkalo**, Vice-rector, Graduate School of Management of Saint-Petersburg State University

**Dale J. Stephens**, Founder, UnCollege movement

**Front row participant:**

**Andreas Schleicher**, Head of the Indicators and Analysis Division at the Directorate for Education, OECD

**Y. Kuzminov:**

Good morning colleagues. Let us begin what has become a traditional event for the St. Petersburg International Economic Forum, a session on education. This year the session will focus on the relationship between university and so-called 'corporate' education. What underlies such a comparison, such a statement? Higher education in the world—or in developed countries at least—is rapidly moving towards becoming universal higher education, becoming a prerequisite for any serious career, perhaps even for any normal job in an urban economy that, in turn, represents an overwhelming share of the economy as a whole. On the other hand, technologies and the jobs connected with them are becoming more and more short-lived. This is related to the continuing exclusion of elements of so-called narrow professions from undergraduate education programmes, from the programmes that make up the first stage of a university education. And on the other hand, there is the need for education in the form of continuing professional training in specific technologies, at the very least, or in the form of more serious and more broadly oriented training courses that a person voluntarily—regarding the point about continuing education—chooses and takes throughout his entire life. And that correlates with very interesting processes in labour markets: in the economies of developed countries, there is a move away from positions of being a pure operative, at least when that position is not to do with constant communication, but with monotonous work. This phenomenon of a pull, a new pull, towards jobs emerges. It must be work that involves communication. And a person looking for work after university is ready to sacrifice pay for the opportunity to be surrounded by people who are interesting to him, to be included in a certain social circle. And that, in turn, leads to a growing crisis in national systems of standard early education and intermediate vocational education. Everything that is connected with obtaining

qualifications to be a pure operative or a traditional operative. In Russia, it is a crisis in the systems of technical and vocational education and in academic educational establishments. In other countries, it is a decline in interest in a corresponding level of professional education.

How are corporations reacting to this? How are employers reacting to this? On the one hand, in Russia we see employers increasingly moving away from traditional forms of cooperation with universities and technical schools. Over a period of five years, from 2005 to 2010, the proportion of Russian employers with ongoing relationships including practical training—in fact any forms of ongoing relationships with any kinds of institutions of higher education, technical or professional schools—decreased from 70% in 2005 to 40% in 2010. It is not even a decrease, it is a collapse; it represents demonstrative changes in the behaviour of the employer with regard to the traditional education system. At the same time, employers are seeking the best ways to organize continuous education, to organize training on how to use technologies essential to them, choosing between three possibilities. These are as follows: training within a corporation; training in the market, in market-based training centres; or a return to a new basis of cooperation with universities, those traditional education centres. And what kind of new basis is this? That will be one of the subjects of our discussion. At the same time, it is important to highlight three areas within the corporate sphere in which people with higher education work (we will speak about them today): the area of analysis and decision-making, the management side of corporations; the area of R&D (which can be said to include design), creative marketing – that is, the clearly creative side, creative professions that are nonetheless related to making economic or legal decisions; and, finally, the positions of—as they would have been called in the past—rank-and-file engineers. This is a position connected with regulatory compliance, or, more

precisely, with oversight over compliance with regulations that exist in a corporation. This regulatory compliance is a traditional part of corporations and for many years occupied 70-80% of their intellectual resources. And today that compliance does not only pertain to technologies – it also pertains, first and foremost, to logistics, to one or another set of sales procedures. Nonetheless, this is a field that has traditionally been considered one of the least creative. To what extent is this field evolving now, in terms of corporations, and to what extent do these two groups of people employed in corporations converge? This is another one of the issues that we would like to discuss today.

Andrei and I would propose that we not give long presentations today. If someone would like to give a presentation, please pick three or four slides, otherwise we are going to have an prolonged lecture; let us try instead just to talk, to interrupt each other more. That will be interesting.

Now I will introduce the participants. Next to me is my co-moderator, Rector of the Skolkovo school, Andrei Volkov. With us are Andrei Fursenko, the Minister of Education and Science of the Russian Federation; Alan Kantrow, Professor of Management at the MIT School of Management; Isak Frumin, leading specialist at the World Bank and Head of Research at the Institute of Development and Education at the Higher School of Economics; Mads Ingholt, Senior Director at Moller-Maersk; Dale Stevens, founder of the UnCollege movement; Andreas Schleicher, Head of the Indicators and Analysis Division at the Directorate for Education of the OECD, and Valery Katkalo, Vice-rector at St. Petersburg State University who is well known to us, mainly as the leader and founder of the Graduate School of Management of St. Petersburg State University. Andrei?

**A. Volkov:**

Thank you, Yaroslav. Good morning, esteemed colleagues, good morning. I would like to put three questions before our esteemed panellists for our discussion. Firstly, the part of the education sector that lies outside the confines of school and university education is expected to grow many times over. To give an example, I want to show just one slide from my presentation. This is how things will look in 2050 in the opinion of OECD specialists. And the growth, 600 million people in developed countries – this is the sector that educators must work with. This is an enormous sector in comparison with traditional school and traditional higher education. For now, we in Russia anyway do not notice it being seriously included in the discussion that is currently taking place in the country. And how do the esteemed panellists think the entire system will react? We will be very interested to hear. Which players will emerge on the scene? Will universities be able to support this trend, or will training companies and corporate universities seize this initiative? Do we see such a trend? Such universities as those at General Electric, M3 or Boeing – these are large campuses, large complexes with their own methodologies, and they exist outside the university sector. Whether this is a temporary situation, or universities will enter the game and occupy this space in the next 20-30 years – this is an open question for the entire world, and for Russia as well. Finally, the third question is related to the first two: will the mission of the university that has taken shape over the last 200 years as a centre of intellectual growth be preserved, together, of course, with the polytechnic school and other forms of postgraduate education? However, we do think of universities as being the centre and forming the nucleus. Will that mission persist, or will it—the university, as a centre of knowledge—withdraw into the shadows and occupy one small place in the future picture of education of the future? I would like to pose those three rather abstract questions for our discussion, and now I will ask Alan Kantrow, our old

acquaintance, to speak. We worked together at Skolkovo rather a long time ago. He also has a great deal of experience working in the Boston university community, at Harvard and at MIT.

**A. Kantrow:**

Good morning. This is a time in higher education, in tertiary education, of extreme irony. Countries around the world have finally become very, very clear on the critical importance of tertiary education to social stability and economic progress. They have finally gotten the message.

At exactly the same time, the established institutions, many of them that deliver that education, are increasingly failing their mission. So we have a growing disconnect, and it is serious and it is accelerating.

Two or three very quick points in the context of this discussion: first, Russia is not unique in this. It has some specific exacerbating realities: its demography; the speed with which this move toward university, as opposed to vocational enrolment, has happened.

In Russia, for example, you have gone from 10% to 20% of the relevant age cohort going to university in a period of about 20 years. The OECD average was 75 years. It has all happened here very, very quickly.

So there are some exacerbating factors. But the result that you are all familiar with is this huge flock of enrolment into university, and questions of quality, access, consistency, corruption. The vocational system is, at the same time, decaying. And the output of these universities—that is, the human asset output—is increasingly disconnected from meaningful opportunities in the economy and occupations and so on. So there is a disconnect which is seriously important.

Secondly, the remedial efforts that are going on—and there are important ones; they matter and they are good—are flowing energy resources and attention to high-end institutions that deal with issues of science and technology.

There is nothing the matter with that. This is essential. This is all good stuff. The issue is that it serves a tiny segment of the population and that it is creating a reality on the ground where even if great science and technology get generated by these institutions, the country's ability to commercialize them is going south, is decaying.

Even if it all works in the labs produced, the companies will not be able to commercialize, because they do not have all of the supporting levels of specialists and technicians required to commercialize.

In California, the comment is often made, "Silicon Valley would not have happened without Stanford and Berkeley." Absolutely true. Those labs were essential.

It also would not have happened without Foothill Community College. I do not know how many of you are familiar with Foothill. It is a mile down the road from Stanford, and it has trained generations of technicians who work in the companies that commercialize the technology that comes out of these labs. That is the piece that is getting underrepresented in the world of effort we see now.

My third and final point: if we look at this disconnect and continue to focus on measures of input and measures of activity and not on the capabilities produced in the students and their performance outcomes, we are not going to begin to close the gap.

This means, in practice—and I think some of the gentlemen on the panel this morning will talk about it—an increasing range of different kinds and types of providers entering this space to supplement and provide other types of instruction and support. That is a more familiar argument.



The more controversial argument, which I would urge and stress upon you, is this gap cannot be closed unless there is a comparable willingness to think about significant changes in the boundaries dividing types of educational institutions; significant changes in the traditional missions of those institutions; and a real willingness to rethink what the charter of these institutions of higher learning and vocational education are and should be. The boundaries that currently exist are the product of the late 19th century. They no longer apply. They are getting in your way.

So, I think that with this focus of effort and energy, there is a real opportunity not just for Russia to flourish, but for it actually to lead, if it takes seriously the nature of the challenge and the nature of the opportunity.

**A. Volkov:**

Thank you, Alan.

I would like to ask Isak Frumin to speak, head of the Institute of Education at the Higher School of Economics. And I would ask Isak, if possible, to answer the question of where universities are drifting to, taking into account what Professor Kantrow just said.

**I. Frumin:**

Thank you, Andrei. We do not have to show my presentation, because it has a few graphs that I can better describe briefly. It seems to me that Russian education, just like education in many countries with an economy under transition, is a particularly interesting case for education analysts. Now, after 20 years of reforms, looking back, I would assert paradoxically—this may seem paradoxical—that Soviet higher education was to a large extent corporate. What does that mean? That means that corporations were the real clients and

customers. Perhaps many have already forgotten, and many just do not know, that there was a system of obligatory job placements; that is to say, jobs, so-called 'target figures' for recruitment, were ordered by different industries. Moreover, there was a whole raft of universities—incidentally, this remains partially the case today—that were part of the industries themselves, and the industries in the Soviet Union were simply giant state corporations. In that sense, we had an education sector in which, in my estimation, around 80% of higher education was corporate. The traditional universities partially did not belong to this category, because in them the client, the main actor, if you like, was the student. A job that was not predetermined required a different preparation. What happened during the transition period? The connections of universities—of former corporate, in my view, universities (I discussed this in detail recently with the rector of the Moscow Institute of Steels and Alloys, where this transition is highly visible)—these connections have been destroyed, and yet at the same time universities have continued to act as though these connections and arrangements still exist. They continued to prepare students for jobs that were not requested. But at the same time, the people who became the real consumers of higher education and players in this market, those who began bringing money into universities, were students. And our recent research (I will perhaps close on this) into Russian engineering education shows—however you want to say it—a disbalance, a disconnect, and yet universities continue to a large extent to try to repeat these patterns of corporate education without establishing relationships with corporations. And students come for something else: for what Yaroslav Kuzminov called 'basic higher education'. Many, many students, graduates of engineering schools, say: "We have a really good education, it gave us the opportunity to work from our second year". And yet most of them did not work in their field of expertise – that is, students viewed even an engineering

education as a general education. And in that sense, if you speak about trends, I do not see a clear trend, I see two scenarios. One of the scenarios, in my view, is negative. That is if this situation persists, which would mean that students would continue to be pressed into management fields, because there they receive a more general education; there, they will not have to specialize in Rail Cars. Such an approach, specialization and methods exist, Vladimir Alexandrovich, and the approach remains. Mr. Kuzminov and I were recently witnesses of it. That is the negative scenario. The positive scenario is when, on the one hand, universities that have the opportunity establish connections with corporations and partly revert to the status of corporate universities, in the new economic situation; and, on the other hand, when they seriously begin to view students as their main consumers and create opportunities for broader and more flexible education. Andrei, I answered your question.

**A. Volkov:**

Thank you, Isak. It is a very interesting thought, but I would nonetheless be careful conferring on former Soviet industries the status of corporations. With all due respect to them, we could mislead ourselves, though it is an interesting point for discussion. I would now like to ask Mr. Ingholdt to speak and to put to him the question of what is happening with the corporate sector, where it is heading, in his opinion, and what attention is shifting toward in the corporate sphere, in the training of people.

**M. Ingholt:**

Thank you and good morning. Representing the corporate sector, one would probably expect that we may have a little bit of a different perspective than what

has already been voiced this morning, but we do not. I actually agree very much with Alan Kantrow's perspective that the foundation for a success in the private sector is a very strong educational platform.

Coming from a conglomerate, a big company of 110,000 and 120,000 people—probably a little bit smaller in a Russian environment, comparatively—we have increasingly invested not only in internal training and development but also in liaisons with governments and educational institutions. We have done that because we feel that we need to have a voice and an influence in the way that the educational sector moves, where it moves.

But that poses us also with a dilemma that Alan Kantrow posed very well. I think that is: how much influence should corporations actually have? Because research-based institutions should not—and this is my opinion, one I think that is shared with most of my fellow heads of training and development—should not only move to actually satisfy corporations' needs. They also need to move to satisfy a longer-term perspective of societal needs and the needs of science.

So, what we are actually asking, de facto, is a two-track approach from the universities and the educational institutions in the future. That is: to preserve their research-based platform and credibility in that field of assumed objectivity, in the fields that they have expertise in, but also at the same time to become increasingly relevant in what they provide to society in terms of immediate value added.

And how do we do that? We actually enter into advisory councils with the government and educational institutions, where we coordinate our needs and we actually influence the curriculum of what is being taught.

I do not think that students of today would go into educational institutions unless they are really research-focused. If they do not provide an immediate added value, that means that they have learned something that is relevant to their

career perspective the minute they graduate. So, we need to ensure that, and we also, as big corporations, need to ensure that we have people who can come in and function from day one.

On another level, a more practical operational level—and this is something we practice very much with institutions, in working together in the educational sector—we actually enter into curriculums and their training programmes, development programmes, that reflect our immediate needs in terms of the business challenges of today.

One approach that I would like to just put forward here, which is very banal and operational, is actually to ensure that whatever programmes we develop are business-driven and action-learning-based. Some schools are very good at that; some schools are not good at that. But we see a much higher level of applicability to the programmes that actually have those elements within them. It also provides a much better foundation for our allocation of resources to training and development because the business can see that this pays off.

And that I think is my initial comment.

**Y. Kuzminov:**

Thank you Mads.

In connection with what you said, I would like to immediately turn things over to my colleague Valery Katkalo. After all, he is, on the one hand, the head of a business school and, as we say in our education jargon, works in the corporate market, in the market of providing services to the actual sector; and on the other hand, his school has long been set in a university context, so his point of view will be particularly interesting. Where is this combination of corporate education and university environment headed? Valery, the floor is yours.

## **V. Katkalo:**

Good morning. Thank you very much. To be honest, our school has never been set in a university context. It emerged from within a university, and that is our fundamental position. It is very well known that in the world at large as well—in essence, in the United States of America—business education has historically emerged from within universities. A different issue is that with time, and especially in the second half of the 20th century, the paradigm of business education underwent revolutionary changes. And today, this is probably the next step in the transition to a new level of quality.

I would allow myself to make three observations with regard to today's topic. Firstly, it seems to me that, in essence, today we are talking about changes in universities' business models. It is true that there is a serious problem in the quality of Russian university education, and what Mr. Kuzminov today called the flight of corporations away from universities is, in fact, just confirmation of the fact that the overwhelming majority of Russian universities still adhere to the Humboldtian model of a university. He was talking today about a 19th-century model. Universities are not open systems. It is anticipated that the universities that fulfil the demands of the 21st-century economy will become, above all else, open systems, open for cooperation with society, with corporations, and with the outside professional world. Therefore, it seems to me that here, speaking, of course, not about alternatives to corporate university education but about how they are complementary, it needs to be clearly understood that both the models themselves and the very notion of what universities are, of course, must undergo very significant change. The second thing I want to say is that in Russia today, probably almost 40 leading universities, having received various statuses, can probably seek to form professional schools within the university. This structure is very well known in international practice. The formation of universities – and we

are talking about far more than just business schools: this includes engineering schools and law schools, which are essentially directed towards what in today's discussion has been called the synthesis of university and corporate education. The opinion that universities should focus only on basic university education seems to me to be somewhat overstated. The entire issue lies in the fact that universities vary. They can have varying missions, varying development strategies, varying development programmes.

And in the modern world, the universities that are competitive internationally are those that are, first and foremost, strong in what is known in English as graduate education. Or this is about postgraduate programmes; but these are often part of continuous education programmes. If we return now to the issue of business education and in that sense narrow the topic, then we can observe that throughout the entire world today, strong universities have strong business schools that—though in varying formats—have very strong, advanced competencies in the field of executive education and degree programmes. If we speak about executive MBA programmes and so-called 'non-degree' programmes—that is, 'upgrading of qualifications', to use our term—then I would underline once again that there are myriad organizational formats. There is Duke C, an independent corporation that is part of Duke University, the world's largest provider of executive education programmes. There are other organizational schemes at Stanford, at Harvard; there are European approaches at European business schools; there are the leading Chinese schools; and schools in Singapore currently also have very strong executive education departments within them. From that perspective, there is absolutely no factual basis for saying that corporate education is, above all, the province of independent corporate universities. And, finally, my third point: corporate universities are in themselves a subject deserving additional study. In our discussion today, I would like to

draw attention to the very nature of this phenomenon. What are corporate universities exactly? I could be mistaken, but at the moment, in international practice, well-known multi-sector universities and corporate universities are typically created by large companies. They may, of course, be very large, diversified institutions in their own right, but they all work in the interests of their companies. From that perspective, as a rule, what the universities can provide—that is, the programmes, which are inter-sector, interdisciplinary in nature—in terms of their importance, is basically not the agenda for a corporate university. On the other hand, with rare exceptions, corporate universities do not offer degree courses. That is neither a particularly good thing or a bad thing. That is the nature of this phenomenon. It fulfils its own mission, its own functions, and, from that perspective, it seems to me that if we are actually speaking about the statement made by Mr. Volkov, about the swift growth specifically in the role of corporate universities in the market of adult education, as was written on the slide, then in that case it needs to be understood that the nature of the corporate university will also somehow mutate, change, because degree courses must inevitably become one of their priorities.

The last thing I want to say is that in Russia, absolutely without a doubt, there will be movement toward the development of corporate universities. Over the last decade we have seen, in essence, an explosion in the development of this practice by leading Russian companies. It is absolutely clear that one of the reasons for this is the deficiencies of Russian universities and independent business schools in meeting demand. But currently we also see that these corporate universities are following strongly differing models of development. It is sufficient to compare three very famous contemporary examples: the corporate universities of Sberbank, Severstal, and Russian Railways. The three have completely different programme ranges, completely different missions, and



so on and so on, and that is why I was so incredibly interested in participating in today's discussion. I am thankful for the invitation, and I would like to say that this is truly one of the most pressing issues involved in bolstering the international competitiveness of Russian higher education.

**Y. Kuzminov:**

I would like to make one remark. You know, perhaps, going outside the formally defined scope of our discussion, we should not examine the future as part of a classical university-corporate university dichotomy, a dichotomy between a formal system of education and a corporate system of education. There are two other sectors emerging on the market, and they have captured a significant share of the market in a whole range of countries. One of these sectors is professional education centres, which operate on the market as independent players, outside the corporate sphere, on the one hand, and so-called professional training centres, which are arranged in some cases by local governments, in other cases by professional associations. Finally, there has long existed on the market an exceptionally interesting phenomenon that makes, one could say, a certain contribution to the formation of signs recognized on the labour market. These are training centres run by suppliers of technology. In contrast to traditional corporate universities, they are oriented not toward their own employees, not their own workers, but toward the market. The classic example is Microsoft, where training is offered according to level of proficiency in various technologies they have on the market: Microsoft Certified, Specialist Microsoft Certified – these are for engineers and so on. That kind of orientation toward the market outside corporations, toward marketing not one's human capital but one's technologies sold on the market – that seems to me also to be

a very interesting trend. Overall, the future is much more diverse than a battle between classical universities and universities of large corporations.

**A. Volkov:**

Thank you, Valery. Thank you, Yaroslav. Yes, let all flowers bloom, and there is no dichotomy, but there is not enough money for everyone. In this lies the intrigue of the future education system, which is no longer a system but a populist mass of money and people: those who can study and those who cannot. There definitely is not enough for everyone, and that imparts a special charm to our discussion. It is my contention that all the intrigue with regard to the future situation is in this. I would like to invite Dale Stevens from California, the founder of UnCollege, to join the discussion. Dale?

**D. Stephens:**

As Alan mentioned earlier, we are seeing this increasing gap between college and life. And I think this is due to an increasing focus on conformity rather than independence, regurgitation rather than learning, and theory rather than application in the classroom.

And we are training rule-followers in our university system rather than creative individuals who are going to create the future. And just for a moment close your eyes and imagine the millions of 18-to-22-year-olds who are currently sitting in class copying their professors' words verbatim off the blackboard, and think about the opportunity cost of going to class.

What else could those individuals be doing with their time, productively, out in the real world? What could they be creating? What could they be leading? What companies could they be starting? Projects they could be creating?

And I think that if we want to train a generation of individuals who are going to bring us into the future, we need to make sure that the individuals are accustomed to working in the real world, not just working in academia.

I think creating direct links between people and corporate institutions is going to be the key to solving this conundrum, because the way our entire educational life and professional system is set up is predisposed in the notion that everybody goes to college and gets a college degree.

We have seen academic inflation rampant, where jobs are now requiring masters and PhDs and soon are going to be asking people to get two and three doctoral degrees before we can even apply for a job at McDonald's.

And that just seems ludicrous to me. I think what matters is what people can do—their talents, their skills—not the letters after their name.

**A. Volkov:**

Thank you. Thank you, Dale.

And I would like to draw one other sector into our discussion. Andreas Schleicher, a well-known specialist—known internationally for having launched a product known as PISA (Project for International Student Assessment), which I suppose is known worldwide now. It is a well-known testing system of comparative research in education that has made a big impact in the world and is now undergoing auspicious development.

Andreas, from your perspective, what is happening in the university sector? How does OECD evaluate what is happening in school education, which we have barely touched upon here so far? How is that connected to the direction universities are headed right now?

And I would like, Andreas, to ask you to make a much shorter presentation than you prepared. Is it ok? Thank you.

## **A. Schleicher:**

Yes, I think there is nobody who argues that skills are not the key to individual success and large-scale economic success. I think everybody agrees on this.

But I do think we have lots of evidence that skills and more graduates do not automatically translate into better economic and social outcomes. We actually see this toxic mix in many of the countries of the industrial world with high levels of unemployment, and at the same time you have employers desperately looking for skilled people. There is a growing competition for talent.

And now you say, "Well, we just need to do a better job at matching skill demand and skill supply." Russia is actually a good example for lots of regions that have a perfect match between skill demand and supply, but at a quite low aggregate level. And the question really is, how do you move that to a high-skills equilibrium? How do you figure out which kinds of skill sets actually matter for development? How do you teach the right mix of skills? What are the kinds of providers?

And actually, if you look around OECD countries, those countries that have been very successful in providing flexible points of entry and exit to higher education for people have actually done a great job in getting this done.

I just wanted to show you one slide that shows you the dynamism that we see. You can basically see here the graduate supply of different countries on the horizontal axis, how much countries invest per graduate, per student per year. Every dot is one country.

Making it a bit more complicated, the size of the dot tells you where the money comes from. How successful is the system in generating private resources for higher education? And you can see that the United States is number one – lots of people getting out of the system; lots of money being invested per student. And the system is very successful in mobilizing resources.

You can see Japan and other examples are quite similar, but at a sort of moderate level. Then you see Finland in the middle of the pack: moderate graduate supply, moderately expensive.

What I did not say is that this is from 1995. And you can actually see in the year 2000, the world already looked very different. You can see how some countries actually have moved rapidly forward. You could see the United Kingdom, Australia, which have very, very flexible models of education, very diverse institutions, getting more and more people into higher education, getting them advanced skills. And then there's Finland, now number one.

And the world did not stop in the year 2000. You could see actually how things have moved on, 2001, 2002, 2003, 2004, 2005, 2006, and so on. And basically, what you see is that what was the benchmark for success, the United States, is now just an average performer.

One of the interesting things that we have looked at is: who benefits from this? The key question is always: who pays and who benefits? How do you decide what to pay for, when to pay for it, and so on?

And you can actually see here, if you get a higher education qualification, you invest money—some countries a lot and some countries a little—you also lose earnings. That is what they highlight – you do not earn when you study. You also pay more taxes when you go to universities, which is also bad and goes to the negative side. And you pay more social contributions.

But basically, what you see here is that highly skilled people earn a lot more in the lifecycle. And that is basically driving those kinds of participation patterns. And we have actually seen a growing wage gap between highly qualified people and poorly qualified people in the last 10 years, as never before.

You can see the same thing operating at the level of governments. Governments invest in higher education or highly skilled people. That costs money, but they

also earn from better-qualified people paying more taxes when things work out. And you can actually see that governments make quite a big profit from every university graduate coming out of this system, and that is very, very important. It pays off for government, and it pays off for institutions.

But I just wanted to conclude—actually, I am going to skip the money part—I wanted to conclude with one part I think we must not forget: that this is not just producing more of the same kind of skills.

When you think about higher education providers in this modern world, first of all, we see quite dramatic changes in employment patterns. Some sectors are growing, others declining. And if you look at the actual skills used by occupation groups – at the OECD, we do not look at where you come from, what higher education institutions you studied at, and what kind of degree you got. We measure the skills that adults actually have and how they deploy them.

And you look at, for example, a service worker. You need a lot of motor skills to serve in a restaurant, and so on. You need very little advanced skills. And you look at someone producing goods. Now you can see also: very similar profit. Some are working as low-skilled information workers, bookkeepers. You can suddenly see their Internet use, computer use, but also teamwork, problem solving.

You look towards high-skilled information work and you see suddenly oral communication, influencing others, planning your own time, planning others' time. Where do you learn those things? Is that the traditional domain of higher education?

If you look towards managers, suddenly you can see how those kinds of interpersonal, intrapersonal competences matter. And you look towards high-level knowledge workers and you suddenly again get a very, very different type of skill profile.

And I do believe that that is the kind of knowledge that we really need. We need to look at how people actually deploy and use their skills in the labour market to better understand how universities and higher education can match that demand. Thank you.

**A. Volkov:**

Thank you, Andreas, for such a comprehensive view about future marketable skills.

Mr. Fursenko, I understand what a difficult set of circumstances you have currently, but I am nonetheless compelled to ask you a provocative question. Taking into account your colleagues' diversity of viewpoints, what, in your opinion, can and should the government do, given that it has long ceased to be the only player, and perhaps is no longer the foremost one, in the overall sphere of education?

**A. Fursenko:**

Thank you, Mr. Volkov. If I may, I will try briefly to respond to everything that has been said, given that a lot of interesting things have been said. I would first like to say that problems in education definitely do not exist only inside Russia – they are not even Russian problems so much as problems faced by the whole world. And they apply not only to developing countries, they also apply to the most developed countries. My discussions with colleagues from other countries suggest that these are common problems that are very similar, whether you talk about the US, France, England, or China. There are differences, but really they are secondary.

It seems to me that one of the main problems that exists in education today—and here the government can do something—is that we have an imbalance that

has occurred between problems of symbols and problems of content. Symbols strongly override problems of content. Just now it was said that a person is supposedly not asked where he studied but what he is able to do. In fact, that is far from the truth. Unfortunately, today that is more an aspiration than a real trend. In many cases, the club jacket of a leading university means more than what is under it, that is, what is inside that club jacket.

The problem of demand is very acute today.

What is higher education in Russia today? It is in some sense a symbol of adequacy. A person who has a higher education is in some sense perceived by an employer to be a more adequate person than someone without such a degree. Here we spoke about rank-and-file engineers, about people who do compliance work. And we have already had heated discussions and meetings regarding the fact that we do not need so many highly-qualified development engineers. People who are prepared to learn how to use and then to use other people's solutions, other people's groundwork, other people's intellectual property are no less important and, perhaps, may turn out to be even more needed. But mentally it is very awkward for a person, in Russia at least, to feel as though he is not a creator, but rather a cog in the machine that assures proper performance. When he goes from creating something fundamentally new to assuring compliance, a kind of psychological upheaval occurs within him and he begins to have psychological problems that, incidentally, hinder his ability to work properly. Therefore the most important thing that education can and should do right now, and that the government should ensure, is to change attitudes. Perhaps a change of hieroglyphics, from the very beginning. The main thing that should be resolved today is to make people prepared, perhaps starting from nursery school, to undertake continuous education throughout their lives; to instil a desire to learn and to take pleasure from learning, from education.



And, essentially, to instil a readiness and a desire to take responsibility to some extent for choosing one's educational path and not count on such paternalism as when you are told what to study and how to study.

At the moment, unfortunately, no one can say that is the case. We talked about what is happening with regard to cooperation with corporations. It needs to be clearly understood that, at the moment, the labour market is not fully formed here – it is not fully formed throughout the world. 10 years ago, maybe even 5 years ago, nobody knew about the professions that would be most in demand today. But education is something that takes a long time. It cannot be obtained in an instant as happens in science fiction: get an injection and you acquire some completely new knowledge. In real life, it happens in a completely different way, not in that way at all.

What is happening in Russia today? There is certainty, and a certain willingness to cooperate in education on the part of the industrial sector, that is to some extent developing at the moment in the atomic energy sector. This is understandable: It is a strategic sector that by its very nature confers major significance on strategic planning. The aircraft industry is actively working on that today. A school of technology and economics is being started, as it is also being directed toward corporativity in the Soviet style. This process can be seen in the field of transportation, in medicine, but this is not actually a new economy, not a new industry; this is more like that same corporativity in which calls are made from time to time for a return to assigning jobs. We know the wonderful statement of Dr. Roshal, who contends that all the woes of our Russian medical system can be resolved in a simple way: Reinstate obligatory assignments for medical university graduates and all will be well.

I think that the government, strictly speaking, is responsible for that. And work has to be done on more in-depth forecasting; we have to work jointly with

corporations and encourage business to provide a more in-depth elaboration of what business itself needs from such a socially important institution as education. At the same time, approaches in education have to be changed; first and foremost, the system of education has to be made so that it truly provides education throughout a person's life. Also, I want to say that adult education is, on top of everything else, an economically secure system of education. It is absolutely clear that education in Russia over the next 10 years—and perhaps for a longer period—will not be able to be an economically successful sector if it does not expand its market. If professional education is not able to bring in... not able to acquire some part of the adult education market, then it will not be able to meet the economic challenges, and on top of that, it will simply begin to fall apart. This is due in part to demographics, but demographics is not the only reason. Education is not sufficiently financed. It must attract significantly more resources in order to be successful. To do that, it must work in new markets.

No government, no society, is capable of paying many times more for services, for the particular benefit that today's system of education provides. Supply must expand; markets must expand. I would like to say that, speaking about the relationship between university and corporate education, you categorically cannot compare one with the other. First of all, any corporate education should be built on a good foundation. And in that sense, universal university education can be the very thing to provide preparation for acquiring specific applied knowledge. You know, it is like it used to be said that only large computing centres will survive, and yet then it began to be claimed that the personal computer will simply supplant and do away with the computing centre as such. In reality, it is clear to everyone that there should be an integrated and very balanced system. A system that should work for all things.

And so, that balance, strategic planning, strategic forecasting – that, of course, is the responsibility of the institution of government, because, no matter whom the cooperation is with, there must be a responsible leader in defining strategic trends in the socio-economic development of society. Perhaps in some cases, even international bodies should take on that responsibility. At the same time, forecasting and any proposals on how to fix the system should be supported by a certain investment of resources, because as long as it is limited to just words, no authoritative opinion is going to be trusted by anyone. It is customary practice for us that until the government backs up its words with some kind of steps toward financing one area or another, no one trusts them. They do not trust the government very much anyway, but if it does not back up its words with financial outlays, they are not trusted at all. Thank you.

**A. Volkov:**

Thank you, Mr. Fursenko.

We have the opportunity now to ask questions and listen to questions from the audience, but while people are thinking about what to ask, I would like to pose a question to all our panelists. Are there any brave spirits who will try to answer it? So, this disconnect, this contradiction between the fact that more and more money is needed and the fact that currently this industry, according to research done by Mackenzie, is already in the top spot compared to other sectors in terms of the amount of money that comes into it. There is more money in education than there is in oil and gas, in telecoms, in biotechnologies, and even more total than in healthcare. In other words, the education sector, in terms of relative capital, is the top-placed industry. And at the same time, as Mr. Fursenko was justified in saying just now, no one has enough money – not even in developed countries, let alone emerging ones. And new money must be found for

education, in a different place, and not only in the public sector. That is one side of the coin. But on the other—and Andrei spoke about this, as did Alan Kantrow—the disconnect between the set of qualities that are required by modern life and what students receive from the education system, has been growing all the time, especially over the last 20–30 years.

What do you think, esteemed colleagues? What is the most important step to be taken, given all the different instruments and approaches? Or will everything come into alignment on its own? Will the market adjust all on its own? If you could answer that question, I believe it would be interesting for our discussion.

**Y. Kuzminov:**

I do not think that a single solution can be offered for the entire education system, but a range of sector-specific solutions can be found.

Firstly, we have a very large university sector, and it can and should introduce and develop, at its own expense, courses that are sold on the market – short-term professional development courses. That is the fastest-growing sector that is in demand, and universities here typically have an advantageous position in terms of their brand, at least with regard to the overwhelming majority of suppliers of such technologies. No, universities will not overtake large mega-brands such as Microsoft; they will have to cooperate with them. But if you look at specific spheres of professional development that do not have clear market leaders, that is a very good and large market.

There is a second sector that is related—however strange it may seem—to consumer training. Over the next 30 years, we will witness the growth of a very large sector of consumer training. People in developed countries—and Russia is gradually becoming a more and more developed country—are experiencing a serious increase in disposable income. A new industry is forming on that

foundation. It is not just education of the elderly. This should not be mixed up with foreign-language education for seniors who have nothing to do. I am referring to active consumer training of various skills, from driving a car or a scooter to survival in the wilderness, trekking, and so on.

There is a great diversity of subject areas. For example, those related to the arts. All of that can to some extent also be offered by a traditional system of education, and moreover I am not saying the list stops there, I was just getting it started.

**A. Volkov:**

Alan?

**A. Kantrow:**

Andrei, to the two questions you raised, let me be a little bit blunt and provocative. On the money issue, God knows more dollars, more roubles would be useful, but we also have to ask whether the ones we currently are spending are getting spent on the right stuff.

My daughter just graduated from a very good American college in sociology. Most of the work she was required to do to get her degree is relevant only if she had the aspiration to go be a PhD student in sociology in the future. She does not; most people like her do not.

Most college education is structured by an academic model which is relevant to a tiny segment of the population that go through it. It is not relevant to most of the people they touch, and conceivably the money being spent on that could be spent in much better and more productive ways. That is point one.

Point two: one of the clearest ways in which the money being spent is failing: there is a piece of research, which if you do not know about I would urge you to

put it on your reading list, a book by a sociologist at NYU in the States, Richard Arum, a book called Academically Adrift.

He has applied the collegiate learning assessment, which is a tool, a statistically rigorous tool, for measuring critical-thinking learning outcomes from programmes and courses—not content knowledge, but critical thinking—to a large range of American undergraduates at a large range of schools over time.

The very, very sobering reality is that the investment in college education for most students does not move the needle on critical thinking at all. They learned content; they do not learn critical thinking skills. I have put these together, Andrei. Here are clear targets for refocusing effort and energy.

**Moderator:**

Thank you, Alan.

**A. Volkov:**

Valery?

**V. Katkalo:**

I have one short answer to the question that was just asked, Andrei, and perhaps two words to add on top of that. The short answer is cooperation with business. It seems to me that that is absolutely the key solution. At the moment, Russian universities, for a variety of reasons, have not yet developed a dialogue with large companies regarding the issues we are discussing. I can employ a well-known term from management: competition through cooperation. If cooperative efforts, alliances, unions, partnerships, are be set up with large companies, this will be an enormous opportunity to resolve many different issues. Mr. Fursenko spoke about economic security and about expanding

supply. Russian universities do not know about that, and do not know how... and they do not understand the demand that often already exists in Russian business today. That means that there is significant money there that Russian universities cannot get their hands on because they are not having a dialogue with business, because they do not set up partnerships and alliances.

You can cite the simplest institutional examples of the absence of such cooperation: boards of trustees, as a rule, are either absent or they are false. Endowment funds have been able to be established for a long time, and they are often registered. If they are registered, then generally they have not begun to function, and there is only a single reason why: there is no dialogue, no partnership, no formation of mutual interest. For that, of course, universities must open up; they must cease to be closed corporate systems.

A second very large source of resources (we spoke about this exactly one year ago here, at a special session) could be accessed by Russian universities if they were to enter the international education market. There is, of course, enormous additional unused potential there, including that for economic security, that is to say, for revenue for Russian institutions of higher education. But in that case, once again, they need to open up to alliances, partnerships with suitable players in the international education market – alliances with those market players that match in terms of the specialization of any given university. If a university aims to attain a strong position in the national or international education market, the partner should be one of such calibre as Microsoft, IBM, or the largest Russian companies. Not all universities have the same fate – there is no need here to flatter oneself with ambitions. In Russian education there are dying brands and there are rising ones. The same thing happens in business, and the same thing happens in the international landscape of higher education.

**A. Volkov:**

Thank you. Thank you, Valery. Andreas?

**A. Volkov:**

I kindly ask everybody for just one minute. OK?

**A. Schleicher:**

Yes, thank you. I am actually quite relaxed about the money part because taxpayers are the biggest beneficiaries of better skills. Taxpayers are willing to invest in education.

That does not resolve the question of who pays, for what, when and how. The one thing I wanted to say is that we actually will inevitably see a shift of putting more responsibility for the financing on the learner, away from institutions. And when the incentives are right—go to China, for example—people make those investments.

Where the incentives are right, industries are making the investments. I come from a country where industry pays for 20% of school education because there are structures for this in place. And I think the job of government is not just to provide the money, but to ensure that the people who want to learn have access to the resources.

So I think the role of government is not just sort of the sole provider but making sure that people who want to learn have the opportunities to do so. And there are great examples in many OECD countries of the potential for this to happen.

**A. Volkov:**

Thank you Andreas.



We have one question, we can allow ourselves one question. The schedule will allow it.

**A. Gilmutdinov:**

If I may, I would like to give one response. My name is Albert Gilmutdinov. I am the Minister of Education and Science of the Republic of Tatarstan. With regard to your observation, Andrei, about changes – in any case, if you take our country as an example, we have, it seems to us, a gigantic resource. How do you get this money? The resource comes from the fact that we use the money there is in our system of education in a highly ineffective way. Take just one example: we teach our children English in schools over a period of 10 years, then they study English for another three or four years at university, and far from all of them can speak English face to face. That is to say, a gigantic amount of money simply goes down the drain, and therefore the first issue is that it is senseless to invest—it is important to understand this—in a system that functions poorly. If you lost 10 roubles, then if you multiply the budget by 10, your loss is up to 100 roubles, so having the education system function more effectively becomes an enormous source of financing. In Tatarstan we are trying to deal with that.

And secondly, if I may, I would like to make one suggestion. Perhaps for the future. We keep discussing issues related to professional education. This is absolutely appropriate, as the role of education in the 21st century has become not simply important, but vitally important to the success of any country. But there is one other aspect, which concerns school education. After all, it is clear that if a child leaves school without having been well enough prepared, that child will never become a strong university student. The chain is broken before it has even begun. Therefore, perhaps, for the future, Mr. Kuzminov, I would propose

putting up for discussion issues related to the development of school education in Russia, because it is critically important. Thank you.

**A. Volkov:**

Thank you. Another question.

**M. Sitnikov:**

Maxim Sitnikov, Rosneftegaz, city of Novy Urengoy. I graduated from school here, then I left and studied in the US. As an entrepreneur, I would like to request that school system and higher education to teach students to write an essay and to answer a question put before them. Coming from the US, I was confronted with the fact that university students here, graduates, do not know how to answer the question. In the States, if they ask you a question, you have to answer the question, otherwise you will fail. In Russia, if you write an essay and answer a different question, you automatically get a C. In the States, you fail. That is the nub of it. So, please, in school and at universities, teach students how to write an essay, answer a question, and if the student does not answer what was asked, please, fail him. Or at least teach this: content critical thinking is good, but if you do not answer the question, you cannot work.

**A. Volkov:**

Thank you. As Mr. Fursenko always says, we are all to blame for that. In that sense, I do not expect that everyone here will get up and leave immediately. Thank you for your remarks, but there are various topics of interest. Take the microphone, please.

**From the audience:**

As a professor at the Higher School of Economics, I can say that we have a shortage of professors. We already have a very good team there, and excellent young people come to study there, and, all in all, we teach them rather well, but per capita, per student, there are not enough of us. And this happens everywhere: Russia, Japan, the Soviet Union. Japan and Germany recovered after the Second World War only because they educated their people properly. The two top countries, Japan and Germany—given that they did not spend much on defence and that the US took care of the provision of defence hardware—were simply able to spend more on education as a percentage of GDP than on anything else. The Soviet Union underpaid its people and pumped as much as it could into higher and intermediate education. Thus, if we spend between 3% and 10% of GDP on education and on the closely related sphere of culture, and 10% on healthcare, then everything will work out for us, because we will have enough intelligent professors for the number of students we have to teach. Therefore, I am sorry, but it will not work without money. 3% of GDP for education is not a lot. We cannot afford 10%, but more from the budget has to be spent on education. We have enough clever people to become professors and, as Gorchakov said, concentrate on this, because there is no question that without this, we will not battle through.

**A. Volkov:**

Thank you. Unfortunately, colleagues, there are two panelists whom I cannot refuse: my colleague and co-moderator, and Mr. Andrei Fursenko.

**Y. Kuzminov:**

I would like to say that Andrei and I represent the government expert group that deals with professional education and the labour market. We agree with you, and

believe that it is necessary to increase the share of budget financing. There are absolutely precisely measurable criteria in this increase: to achieve an effective contract with professors. It is pointless to rely on higher education when the base contract for a professor employed by the state pays a salary of RUB 20,000 per month. He will not work for that kind of money, and we will not be able to find an adequate number of professors. But it is not the 7% that Mr. Gennady Zyuganov is calling for, it is an additional 0.8%–1.2% of GDP. And we believe that our macroeconomist colleagues will be able, together with us, to identify sources to provide for such an increase. But that is not enough. It seems to me that Mr. Fursenko said a very true thing here. There indeed is an imbalance between symbols and content in our education. You see, higher education here is practically universal: 85% of the age group goes to college, and if you compare the average student population of China, where until recently 15% of young people went to college (now 20–22%), with ours, it turns out that they are brighter. But you see, our system of higher education must get used to working with people of varying ability levels, though it has not yet learned to do that.

And secondly, we do not have a mechanism for identifying and weeding out people who go just to get a degree. We do not have a mechanism for screening people out because they do not invest enough in education. Unfortunately, problems of that sort exist. We are always arguing with Isak Frumin, with a number of our colleagues with international experience. They say that screening people out is bad. We believe that considering the current problems in Russian education, decent screening—an honestly, transparently organized form of screening out people who have just come to get a degree and are not investing in themselves as students—is something that is absolutely necessary.

**A. Volkov:**

Thank you, Yaroslav. Mr. Fursenko?

**A. Fursenko:**

First of all, I agree that education does not have sufficient financing. I talked about that. Secondly, I absolutely agree with Mr. Gilmutdinov: We must not invest money into an ineffective system – that will only increase its ineffectiveness. And the third thing is a bit more general: there are three things that, in my opinion, are key for any person: health, security, and being needed. While the first and second things are basically handled by other agencies, the issue of being needed is definitely our realm. But concept of being needed can be divided into three parts. Being needed by the economy is exactly this cooperation with business, with corporate entities. This includes everything that was said about cooperation. There is also being needed by society—that is, proper positioning, socialization—and that is also a task of education. That is, incidentally, one of the main factors, and not only economic. Most important is the security and stability of society, because a person must be a part of a society and be social. And the third thing, which is no less important for stability, is that a person must be needed by himself; he must exist in the world with himself; he must perceive himself as being adequate and basically be satisfied with how his life is taking shape. And that is also a task of education: to give him the opportunity to perceive himself properly. Therefore, when we talk about tasks, about what we should do, in my opinion we must find a very clear balance (this is also the government's task) between these three things. It is an enormous mistake to make education a purely economic instrument; it is no less of a mistake to pretend that there are no economics in this. And it needs to be very clearly understood that we, as the saying goes, are not an army; we are not

building an army – we are creating opportunities, how a person can appear and be satisfied with that. If we find this balance—and that is, I believe, the job of public institutions, including government institutions—then everything in education here will more or less work out okay.

**A. Volkov:**

Thank you, Mr. Fursenko. Thank you, esteemed colleagues. I believe our discussion very clearly shows that investment will come, but it will go not into the system that currently exists. It will go into a second system that inevitably must be put together. Both public investment, I agree with you, and private and corporate investment. Mr. Kuzminov already said that the government is currently devoting a very large amount of attention to the topic of how to reconstruct (I am using that harsh word) the education system. And we will be witnesses of the interesting and creative reconstruction – that is, of the system that we are discussing. Thank you everyone for the discussion. See you around the Forum.