



NATIONAL RESEARCH UNIVERSITY  
HIGHER SCHOOL OF ECONOMICS

*Thomas F. Remington, Israel Marques*

# **THE REFORM OF SKILL FORMATION IN RUSSIA: REGIONAL RESPONSES**

BASIC RESEARCH PROGRAM

WORKING PAPERS

SERIES: POLITICAL SCIENCE

WP BRP 19/PS/2014

*Thomas F. Remington<sup>1</sup>, Israel Marques<sup>2</sup>*

## **THE REFORM OF SKILL FORMATION IN RUSSIA: REGIONAL RESPONSES<sup>3</sup>**

How and when do employers and governments cooperate to overcome skill shortages? Existing literature in the VOC tradition distinguishes between coordinated market and liberal market economy approaches. So far, however, little research has addressed this problem in the context of emerging market economies. This paper uses the case of Russia to address the ways in which postcommunist states overcome the commitment problems bedeviling skill formation in a market economy. Following a discussion of the history of skill formation in Russia from the Soviet era through the present, we present four case studies of Russian regions illustrating alternative institutional solutions to the problem of matching vocational education and training to industry's need for skill.

JEL Classification: Z

Keywords: Russia, skill formation, vocational education, regional government, labor market regulation, business-state relations

---

<sup>1</sup> Goodrich C. White Professor of Political Science, Emory University; Senior, Research Associate, International Center for the Study of Institutions and Development, Higher School of Economics, Moscow, Russian Federation; [polstfr@emory.edu](mailto:polstfr@emory.edu)

<sup>2</sup> Columbia University; Research Associate, International Center for the Study of Institutions and Development, Higher School of Economics, Moscow, Russian Federation; [imarques@hse.ru](mailto:imarques@hse.ru)

<sup>3</sup> The authors wish to express appreciation to Svetlana Pogorelova and Alena Nefedova for research assistance. This paper is part of a collaborative research project with Brendan McElroy funded through the International Center for the Study of Institutions and Development at the Higher School of Economics, Moscow, Russian Federation. We are grateful to its director, Andrei Yakovlev for advice and support.

## **The Reform of Skill Formation in Russia: Regional Responses**

How and when do employers and governments cooperate to overcome skill shortages? Existing work in the varieties of capitalism literature has approached the problem from an institutional standpoint, describing two types of institutional responses to broader coordination problems in advanced capitalist democracies and developing their implications for skill formation. In coordinated market economies (CMEs), long-term strategic partnerships among firms and between employers' and labor associations are underpinned by broader political institutions designed to ease coordination problems. This extensive cooperation forms the basis of firms' and workers' ability to derive profits. With respect to skill training, this generally results in solidaristic systems, in which employers cooperate with each other and employees to provide high quality skill formation. Employers collectively agree with each other and labor unions on measures for social protection and industry-wide skill provision in order to forestall poaching and ruinous inter-firm competition for workers on the basis of wages. Coordination problems with workers are resolved through social welfare policy, which provides insurance for investment in skill on the part of firms and workers, protecting the employability of workers in the event of economic downturns and enabling firms to benefit from cooperation in developing a common fund of skill that serves whole sectors. Critical to the whole system are external agents – such as government, trade unions or business associations – that step in to enforce the provisions of the collective bargain, thus reducing the ability of actors to free-ride on each other or to defect from the arrangement (Swenson 2002; Thelen 2004, 2014; Finegold and Soskice 1998; Culpepper 2000; Hall and Soskice 2001).

Liberal market economies (LMEs), by contrast, are organized with fewer interconnections between actors. Collective actors are weak and cooperation more difficult, therefore these economies instead depend on highly mobile productive factors in a high-information environment to enable firms and employees to respond to shifts in markets in order to profit. The emphasis on market flexibility to succeed in turn incentivizes actors to prize autonomy, adaptability, and control. As with coordinated market economies, liberal market economies are underpinned by a complex of political institutions that enable and incentivize the type of competition necessary for firms to profit. Such systems are in turn strongly associated with segmentalist models of skill formation, in which firms compete with other firms for scarce labor by offering both better wages and better benefits, including in-firm training. Firms rely on the attractiveness of compensation to deter poaching, while individuals demand high compensation to guard against unemployment risks and the loss of their investments. In such systems, the public education system provides extensive general skills, and firms and individuals finance more specific skill acquisition. The marketplace then rewards or punishes choices over investments in skill (Hall and Soskice 2001, Swensen 2002, Thelen 2004).

Unfortunately, the abrupt transition from socialism to capitalism in the post-communist economies short-circuited the historical processes that tend to lead to coordinated and liberal market economies in the developed world (Hall and Soskice 2001). Just as importantly, the state – which is critical to enforcing agreements in both CME's and LME's (albeit indirectly at times) – often is hampered by a low capacity to

provide public goods. Pervasive state (and business) capture often complicates which actors can (or will) act to resolve the problem (Hellman 1998; Slinko et al. 2005; Gehlbach 2008). As a consequence, accounts that rely on the institutional structures associated with LME's or CME's are insufficient for explaining variation in skill formation in these settings.

Equally important, however, is the fact that distinct skill formation regimes have emerged in the post-communist context to address firms' demand for skilled labor. In the absence of institutions associated with coordination in the developed world, how do these emerge and what do they look like? This paper seeks to address this question by exploring how post-communist economies overcome the commitment problems bedevilling skill formation in an open economy and the actors responsible for ensuring coordination. We focus on Russia, in particular, to take advantage of the diversity of its subnational regions and the relative decentralization of reforms to its pre-transition skill provision. The plethora of regional models allow us to both understand the types of institutions formed, as well as the circumstances that shape them in the absence of a well-developed institutional nexus governing state-business, business-business, and employer-employee relations in the developed world.

In the next section, we briefly discuss the history of skill formation in Russia in order to identify the scope of the under-provision problem. In the following four sections, we then discuss four regional case studies that we believe are illustrative of the patterns in Russian regional reforms of the skill formation system. The final section concludes and outlines the research agenda for subsequent exploration of the reform of skill formation reforms in the post-communist sphere.

## **Soviet Legacies and the Great Divide in Skill Formation**

When the communist countries embarked on their market transitions, many observers expected them to enjoy a competitive advantage because while wage levels were relatively low, human capital was relatively high. The proportions of the adult population with complete secondary education were slightly higher than in advanced capitalist democracies, while the proportions with tertiary educations were slightly lower. Russia was one of several post-communist countries where enrollments in higher educational institutions shot up after the transition, so that by the early 2010's, the share of the adult population with tertiary degrees was comparable to, and in some cases higher than, other advanced capitalist countries (EBRD 2013, pp. 63-64).

Prior to their collapse, communist regimes used their economic planning systems to match the demand for skill with the supply of it through a state-financed system of vocational education and training that produced skills roughly in the assortment and quantities called for by the economic plan (Eichhorst 2012; Saar, Unt and Kogan 2008; Matthews 1982). In the USSR, creation of basic primary-level vocational schools accompanied the crash industrialization drive of the 1930s. These were intended to give a largely peasant population rudimentary general education and basic industrial skills. The primary vocational schools added two years of training to eight years of basic general education. Later, specialized secondary institutions opened as well, that added a vocational component of four years to eight years of basic general education, enabling an individual to graduate with a secondary degree. Specialized and polytechnical institutes



offered tertiary specialist degrees as well. At the same time, workers still needed a considerable amount of on-the-job training, a concern that the communist authorities took great pains to address, as this poster indicates:



Experienced workers, do not mock younger workers. Let us train and raise up the young worker. (Authors' translation)

Yet notwithstanding the planning system, firms experienced a constant shortage of skilled labor. This was because (apart from a period during and shortly after World War II when a labor draft was in effect), workers were allowed to change jobs and did so in large numbers. Competition was particularly fierce over workers considered part of firms' "core" (*kadrovye rabochie*) workforce, who often had high and specific skills needed by the enterprise, disciplined work habits, and demonstrated loyalty to the enterprise (Morrison and Schwartz 2003, Clarke 2007). Such workers were particularly valuable due to their firm-specific skills and ability to deal with the jury-rigged machinery and nonstandard inputs that were part and parcel of the command economy (Clarke 2007). At the same time, firms were also incentivized to limit turnover amongst their employees more generally – even those in the less valuable "periphery" that manned non-production line jobs – due to the fact that meeting plan targets for output often required end-of-period "storming". Firms were therefore encouraged to hoard labor, since labor costs were relatively low, even among highly skilled workers, and a supply of excess labor was cheap insurance in the face of an uncertain environment with strict production deadlines.

While firms had some leeway to make use of discretionary wages and bonuses to retain labor, there were strict constraints on the use of wages to recruit and retain workers due to the tight administrative controls over consumer goods and services.<sup>4</sup> One way that firms were able to foster labor attachment was to make use of the broad array of paternalistic social responsibilities that firms routinely assumed in the Soviet era to comply with government mandates. Firms sponsored schools, recreational facilities, and many other services for their communities, some of which they used in order to foster labor attachment amongst workers, who could not change jobs without risking their company benefits (c.f. Commander and Jackman, 1997). Firms also cultivated close ties to primary and secondary vocational schools in their territories, offering students practical training opportunities, and providing in-kind assistance to the schools to recruit early. Firms were encouraged by the government to offer apprenticeships (*nastavnichestvo*) to further education at this level. Many firms also acted as sponsors or "mentors" to feeder schools, a practice known as *sheftstvo*. These practices enabled firms to maintain a stream of recruits to the workforce, familiarize future employees with the skill demands of the firm, and ease the transition from school to employment.

Thus notwithstanding the extensive system of state-run vocational education, firms devoted substantial effort to controlling their internal labor markets by providing in-house, firm-specific training, fostering loyalty to the firm, and rewarding good performance with bonuses and other forms of incentive pay. In this Soviet version of segmentalism, firms rarely cooperated directly with each other to meet their labor market needs. They instead relied on direct relationships to workers and schools to produce and retain skilled workers. What collectivist features existed, in the form of wage constraints, were centrally imposed and, in practice, could be finessed around. This pattern helps explain the paradox of overstaffing at the micro-level of firms amidst a general shortage of skilled labor throughout the Soviet period.

---

<sup>4</sup> Discussions of compensation under the Soviet system may be found in Clarke 1996, Gimpel'son and Kapelyushnikov 2011, and Remington 2011.

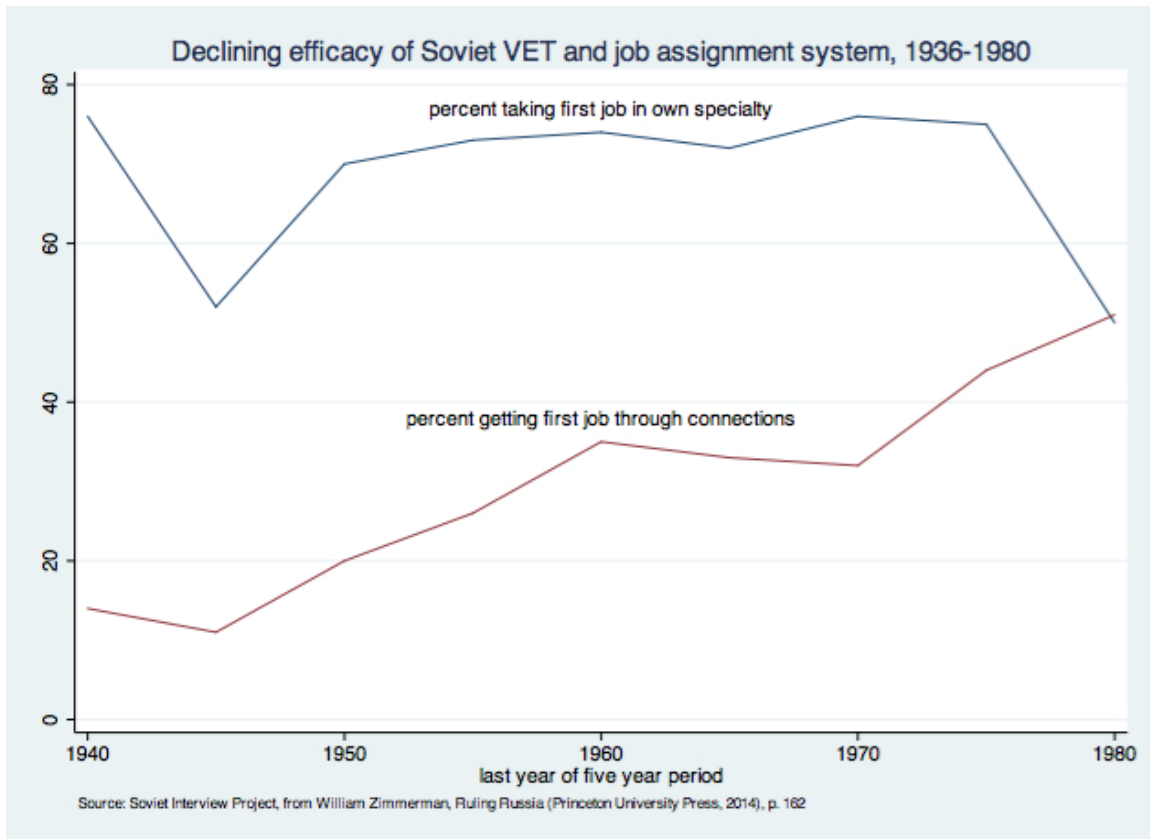
At the same time, the Soviet system was not entirely segmentalist, since firms relied on cartelistic methods for regulating training and other features of the labor market that were backed by the state. State controls over wage scales set nominal floors as well as ceilings to base pay, even if firms were increasingly able to evade them in practice as the Soviet era waned (Remington 2011). Throughout the Soviet industrial era, planners regulated labor through the use of a system of nationally-administered job assignment (*raspredenelie*) to allocate labor to jobs that sought to match particular skill profiles to jobs calling for that specialization. These elements are classically collectivist, albeit a collectivism largely driven by the will of the state to force firms to cooperate and coordinate labor market policy.<sup>5</sup>

Nonetheless, it is important to note that individuals and firms could and did evade the job assignment system, and over time, fewer and fewer people used it to take their first jobs. The Soviet Interview Project of the 1970s shed light on the disintegration of this system, asking respondents whether they had received their first job in their given specialty or whether they had used connections to acquire their first job. Breaking down the respondents by five-year cohorts according to the time period when they began work, they uncovered a sharp decline in the 1970s in the number of people whose first job was in their specialty and a corresponding rise in the number who had used informal connections to get their first job (Figure 1). Thus the statist-collectivist elements of the Soviet system were already in decline by the end of the Soviet era, when the market transition swept away both of the major elements of Soviet collectivism: the job assignment system and wage ceilings.

---

<sup>5</sup> For more on the distinction between state and non-state driven collectivist VET systems, see Busemeyer and Trampusch 2012.





## Skill Formation in Transition

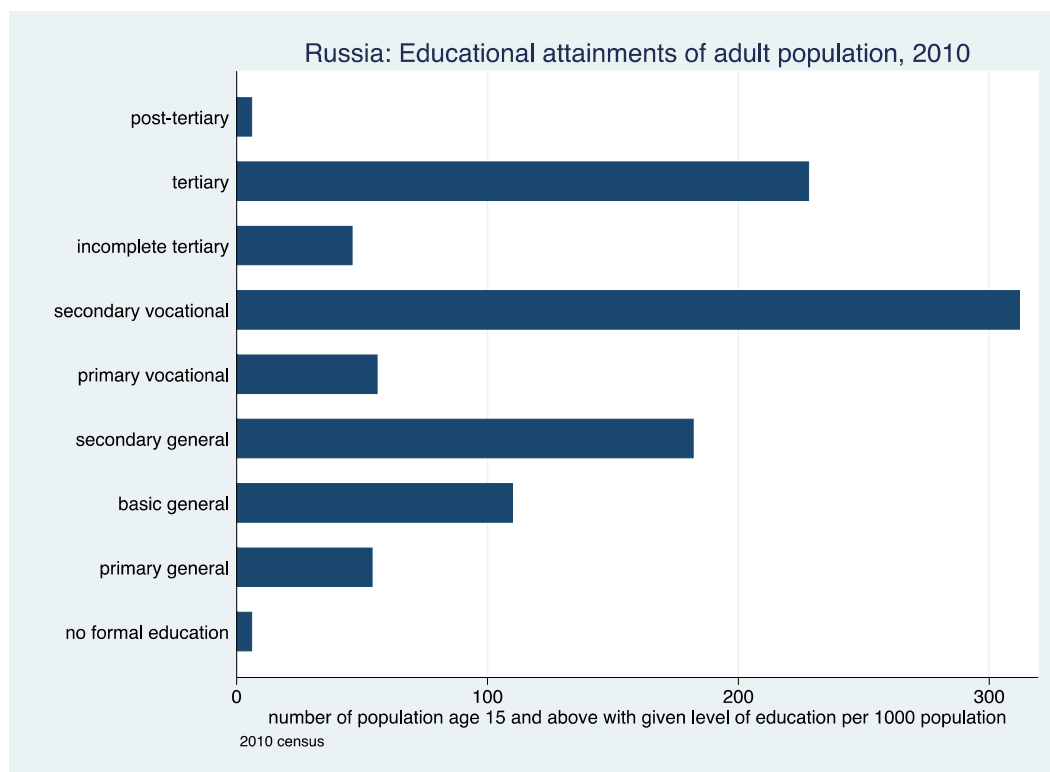
The collapse of the Soviet regime brought massive dislocation to the economy and society, not least in the system of vocational education. In this section, we argue that the problem for Russia in the reform era is less a low level of human capital in general than a severe underprovision of the *types* of skills appropriate to a dynamic capitalist economy. Relative to the current demands of employers, not to mention the avowed goals of the regime for technological modernization, innovation and diversification, there is both a relatively low level of provision of occupationally-relevant skills, and relatively inefficient use of those resources that are being expended on skill formation.

During the 1990s, GDP fell by around 40%, but employment fell by less than 15% (Gimpel'son and Kapeliushnikov 2011, p. 3). As Vladimir Gimpel'son has pointed out, it is a peculiarity of the Russian labor market that in downturns, employers tend to keep their employees on the rolls while cutting their bonuses and work hours. This exacerbated the problem of overstaffing. By 1998, about 40% of firms reported that they had more employees than they needed, given expected levels of production; fewer than 10% reported being understaffed (Gimpel'son, Kapeliushnikov and Lukyanova 2009, pp. 1-2). At the same time, spending by the state and by firms on support for vocational schools dropped sharply in response to the economic crisis. The former practice whereby firms acted as sponsors of vocational institutions disappeared in many places as laws dictating firms' social responsibilities were removed from the books. Similar trends were observed in all the former socialist countries as they embarked on their transitions to market-oriented economies (Saar, Unt and Kogan, 2008). In Russia, primary and



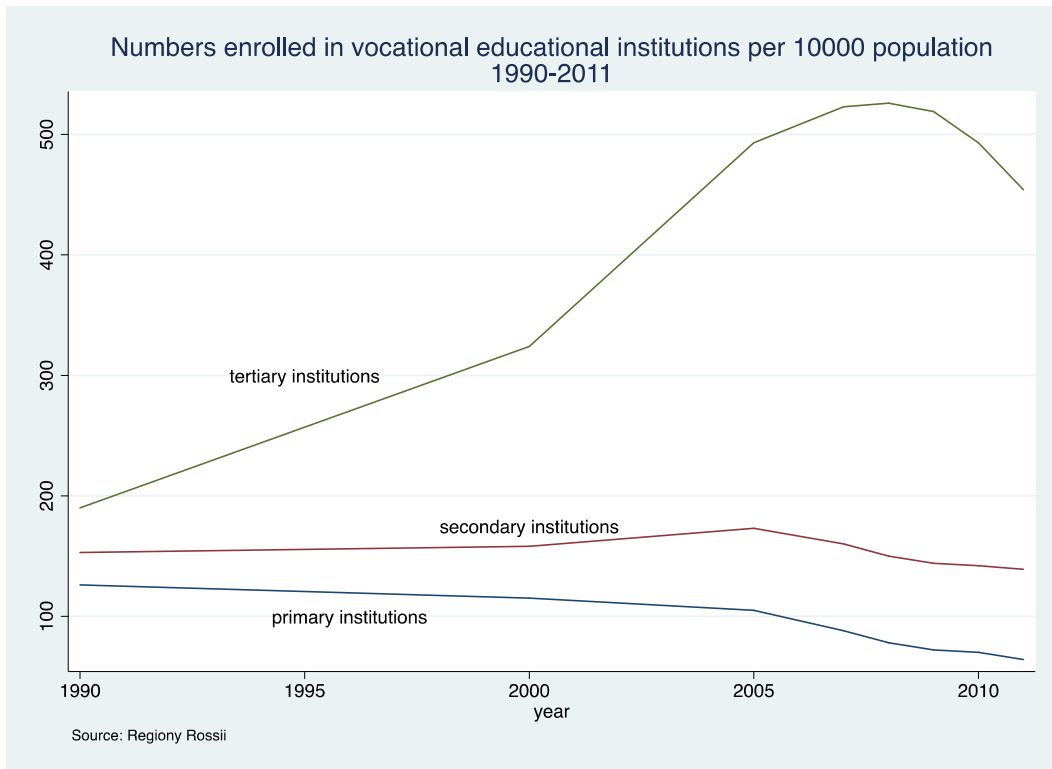
secondary vocational schools scrambled to survive. Many turned themselves into "lycees" and "colleges," and forged new partnerships with firms or began charging tuition. Others created programs aimed at new, popular skill profiles, often in the service sector. Many went under.

Under the Soviet system, all educational institutions had been state-financed and state-run. The state limited the number of spaces in tertiary educational institutions but encouraged all students to complete a secondary degree either in a general or vocationally-specialized secondary school. This explains why the share of the populace with secondary degrees was comparatively high whereas the share with tertiary degrees was low relative to the advanced capitalist economies. This structure remained in place well after the transition even as the number of tertiary institutions grew through the formation of new private schools. By 2010, about 40% of the adult population had general or specialized secondary degrees and over 20% had tertiary degrees. As of 2011, Russia ranked fourth in the world (after Korea, Japan and Canada) in the share of 25-34 year-olds with tertiary education (OECD 2013, p. 26). The share of the workforce with no more than a secondary degree plummeted from 47 to 24% over the 1995-2010 period (HSE-WB 2013, p. 15). Figure 2 indicates the current distribution of the adult population by educational level:

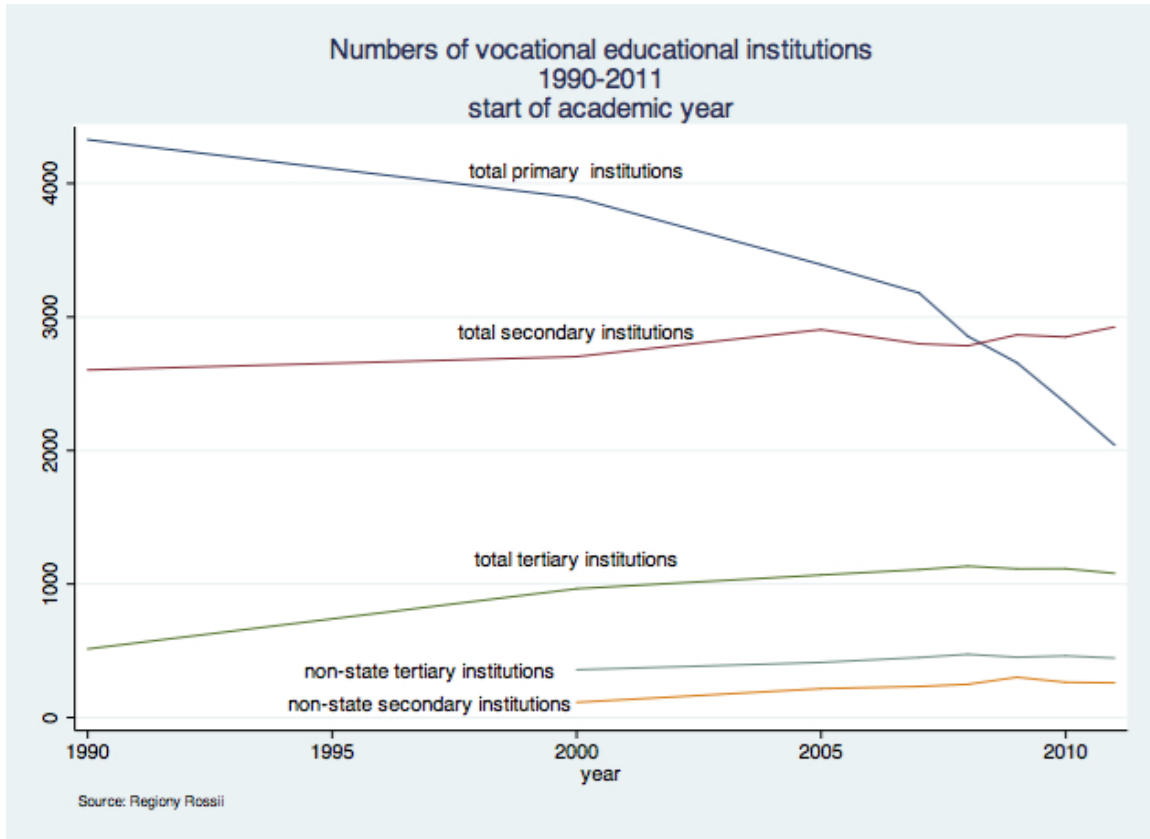


The end of the old state job assignment system and of the command economy generally, substantially liberalized labor markets and further contributed to the problems faced by the vocational education system. Individuals had far more choice over their educational and occupational careers than in previous times. The perceived prestige of tertiary education, and falling prestige of primary-level vocational education, helped to stimulate declines in enrollments in primary-level vocational education in the 1990s and

2000s, and a steep increase in enrollments in tertiary institutions. Enrollments in secondary-level vocational institutions held steady in this period, as Figure 3 indicates: (Figure 3 about here)



As one would expect, the numbers and types of educational institutions also changed rapidly during the transition in response to economic pressure and liberalization (Figure 4):



By 2012, when a major new federal law on education was enacted, the government had concluded these schools were no longer viable. Secondary vocational institutions were to absorb the remaining primary schools and to offer two types of programs, one for skilled workers that added three to five years to eight years of basic general education, the other adding two to three years to full general secondary education. Tertiary vocational education was reformed as well by the law: henceforth a baccalaureate would take 4 years; a specialty 5 - 5.5 years, a masters' degree 1-2 years, and (after 2013) a post-tertiary degrees were to be added.

The decline in the number of schools has been accompanied by relatively low levels of financing for professional education, which exacerbates the challenges faced by the system. Overall state spending on education as a percent of GDP is comparable with international standards, as demonstrated by Table 1.

Table 1: Annual spending per pupil by educational institutions for all educational services, relative to GDP per capita (2010), selected countries:

Slovenia	34
US	33
Poland	32
Estonia	30
Japan	30

OECD average	28
EU 21 average	28
<b>Russia</b>	<b>26</b>
Hungary	26
Israel	25
Brazil	24
Argentina	23
Mexico	20

Source: OECD, *Education at a Glance 2013*, (Paris: OECD, 2013, p. 177).

With respect to non-state spending, however, Russia lags well behind other developed countries. Overall education spending as a share of GDP is 6.3% on average in the OECD, and over 7% for some developed countries, but it is under 5% for Russia (OECD Education 2013, p. 182). Spending on *vocational* education as a share of this total is particularly low – around 1% of total spending – with the bulk concentrated at the tertiary level (*Indikatory obrazovaniia 2013*). To give a sense of what this means in real terms, total spending in Germany is about 30 billion Euros per year, in Russia about 177.7 billion rubles, or about 3 billion Euros, for a population larger by 77% (ASI 2014, p. 6). Finally, in contrast to many countries, Russia's state finances the majority of the spending on vocational education (over 80% for secondary vocational schooling, 60% for tertiary). What non-state spending there is on higher vocational education comes mainly from individual households rather than firms. Firms account for only about 12% of the total spending on higher vocational education (*Obrazovanie v RF 2012*). Again, to put this in perspective, this contrasts with Germany, where firms fund 80% of the expenses on vocational education (ASI 2014, p. 6).

This heavy state component to spending translates into a market for vocational education in Russia that remains heavily state-dominated. The number of graduates of non-state secondary vocational education institution has levelled off at about 6.5% of all graduates of specialized secondary vocational schools. For these students, over 80% of the funding for tuition comes from individual households and less than 10% from firms. Of the remaining students in state-financed secondary vocational schools, only about 30% are fully privately financed, as opposed to receiving some government funds. At the higher educational level, much more of the funding comes from individuals: about half the students in state higher educational institutions pay some type of tuition. These figures suggest that for the population, the growth in household outlays for education has been enormous: on a per capita basis, private educational spending has risen over 11 times, from 137 rubles to 1616 between 2000 and 2011.

Of course, the decrease in vocational education facilities and the relatively low level of funding are only problematic under conditions of genuine skill shortage. Otherwise, these phenomena could represent market mechanisms at play. Certainly, as the economy recovered in the early and mid-2000s, firms once again began hiring. Unfortunately, workers with skill and experience were in short supply. The aging of the workforce was one source of the deficit, as firms found that there were far too few skilled workers in their 30s, 40s and 50s to replace the old cadre of skilled workers who received

their training and experience in the Soviet era and had reached retirement age. By the mid-2000s, firm surveys found that managers considered the shortage of skilled labor to be one of the top three obstacles to firm performance (along with high taxes and unpredictable regulations).<sup>6</sup> Business associations echoed the complaint. A 2012 survey of 6000 businesses conducted for OPORA, the association representing small and medium-sized business, found that two thirds of their members considered the insufficiency of personnel a serious problem. High taxes and difficult access to finance followed (OPORA-2012). Similarly, a survey of its member firms by the Russian Union of Industrialists and Entrepreneurs found that 64% of firms considered the shortage of skilled labor to be one of the most severe problems facing them (RSPP, "Doklad o sostoianii delovogo klimata v Rossii v 2010-2013 godakh," 2013 , pp. 30-1). A PWC survey found that 85% of CEO's were concerned or extremely concerned about the shortage of skilled labor and considered it a threat to economic and political stability (PWC 2014, p. 15). This was somewhat higher than the figures for other BRICS countries or the US (71% and 70%, respectively).

The inability of firms to find qualified labor stems from several sources that we argue all relate to a more fundamental problem – a profound mismatch between the types of skills supplied by the Russian vocational education system (and higher education) and those demanded by employers. Indeed, one of the most disturbing features of the Russian educational system is its low social return. As a recent study conducted by the World Bank in cooperation with the Higher School of Economics observes, Russian labor productivity is less than half the average level of OECD countries (WB/ HSE, "Developing Skills," 2013, p. 7). Much of this productivity gap can be explained by lack of skills. A 2008 report by the Russian government cites a typical example: one machine-building factory manager noted that many of his customers were ordering old-fashioned machine tools rather than the far more efficient digitally controlled ones, because they lacked trained specialists able to work on the more advanced equipment (Mirkin 2008). Thus lack of skill begets continuation of inefficient production strategies. Yet, as we saw, per capita spending on education as a share of per capita GDP is close to the OECD average. PISA scores show that Russia's schoolchildren perform above the average level of countries at Russia's level of development in reading, math and science (WB/ HSE, "Developing Skills," 2013, p. 9). Thus the problem does not appear to be in lack of resources or in a general human capital deficiency.

Instead, it is more correct to think of Russia's productivity problem as a consequence of a gap between the skills supplied by the educational system and the skills demanded by the economy. This grows wider at each rung of the educational ladder, so that by the time students graduate from secondary or tertiary institutions, their skills in relation to those demanded by employers are severely inadequate (WB/ HSE, "Developing Skills," 2013, p. 10). According to the employers surveyed by the study, Russian graduates are particularly lacking in higher order cognitive skills, such as problem solving and openness to new ideas, and in social and behavioral skills, such as leadership and teamwork (WB/HSE 2013, pp. 9-10). The head of the personnel

---

<sup>6</sup> Business Environment and Economic Competitiveness Surveys, International Institute of Market and Social Research GfK-Rus'. Conducted by Ministry of Economic Development, Higher School of Economics, and Levada Center (2005, 2009).



department of a large energy holding company in Vladivostok encapsulated the problem well, observing:

Graduates of technical schools often have to undergo a lengthy period of additional training, and often have to be completely retrained to meet the needs of the company. Firms sign contracts with higher educational institutions to do that in order to save time. We have agreements with several schools for this purpose. Above all, the firms in our holding need engineers and workers. We have fewer young specialists than pension-age specialists. As a result, we have a serious problem with technical specialists--our firms have hardly any professionals of intermediate age (Ardal'ianova 2012).

Given the need to retrain employees anyway, his firm placed little value on the vocational education system, thus contributing to the low social return on education. Moreover, this experience is not unique, many firms express dissatisfaction with the quality of vocational institution graduates. A survey by the RSPP determined that only 16% of firms considered graduates' skills adequate or more adequate than not; the rest were more dissatisfied or could not give a definite answer (RSPP, "Professional'nye kadry," 2013, p. 10). Another survey of firms found that nearly three quarters rated the quality of graduates of vocational higher educational institutions as no higher than 3 on a scale of 1 (lowest) to 5 (highest) (*Strategiia-2020* 2013, p. 280).

As Russia's leading labor economist, Vladimir Gimpel'son, has argued, however, these persistent complaints are misleading. They reflect a misallocation more than an absolute shortage of skilled workers. Many loss-making firms that would not survive in a fully competitive market economy stay in business, tying up resources, thanks to infusions of support from the state. They create an "inefficiency trap" in which relatively unproductive labor is employed at non-competitive firms that lack the means to upgrade the technological level of their production (Gimpel'son 2010, p. 26; Gimpel'son, Kapeliushnikov and Lukyanova 2009, p. 15). Gimpel'son concludes from this that the inefficiency of markets for capital and labor is the major reason for the perceived skills shortage.

Compelling evidence for this perspective comes from several firm surveys, where Gimpel'son calls attention to the fact that firms devote a very small level of effort to skill formation. Indeed, although sizable shares of Russian enterprises provide opportunities for skill formation to their employees, only a very small proportion of employees are afforded those opportunities. The 2005 firm survey carried out by Gimpel'son found that about 70% of firms released employees from their jobs for training in the previous year, either at an institution outside the firm or through a training course administered by the firm. However, a third of firms sent no skilled workers for such training, and 40% sent no more than 10% of them. Two thirds of firms sent no more than 10% of specialists (engineers and technical specialists) to training courses. The 2009 firm survey (administered at the height of the economic crash) found a similar pattern. About half the firms had sent employees for some training in 2008, but more than half sent no more than 5%. Multivariate analysis of the data show that larger firms were more likely to release workers for training, as were firms that paid higher wages, and firms facing more intense

competitive pressure.<sup>7</sup> Moreover, even firms that did release workers from their jobs for training did so for very short courses. Two thirds of firms sent employees for training courses of two weeks or less (Gimpel'son 2010, p. 51). Firms expend surprisingly low shares of their revenues on training. The average share of the wage fund spent on training in the manufacturing sector is no more than .7%, several times lower than the European Union average (Gimpel'son 2010, p. 48; *Strategiia-2020* 2013, p. 287).

These findings are strengthened by surveys of workers, which show that only a relatively small share of the workforce is exposed to supplementary vocational training and retraining. According to the RLMS 2012 survey, only 4.4% of the population had taken a vocational education course over the previous 12 months.<sup>8</sup> Moreover, as noted earlier, households bear much of the cost of such courses. In the case of short supplementary training courses, over two thirds of the cost is borne by the employees themselves and less than 5% by employers. In the case of retraining, just over half is paid by employees and less than 10% is paid by employers. Most of the rest is financed by federal, regional and local governments. Only in the case of skills-upgrading do we observe much involvement by firms: here firms pay almost half of the total costs; individual employees about 37%, and the federal, regional and local governments about 12%. Overall, these figures suggest massive underinvestment in skill formation.

Taken together, these findings are consistent with Gimpel'son's thesis that some firms are caught in a low-productivity trap, in which low wages and low productivity make it difficult for firms to recruit and retain skilled labor. Just as critically, however, high labor turnover has also continued in the reform era. The 2009 firm survey found that about 30% of the employees had left the firm in the previous year, and about 25% of the workforce had been newly hired. This level of churn undercuts firms' motivation to provide training since it is cheaper to hire already trained workers than to devote firm resources to training them (Gimpel'son 2010 p. 54). Doing so also avoids the classic poaching problem that is so central to existing work on firms' strategies for skill formation, thus contributing to the collective under-provision of skill by enterprises.

The VET system and firms are not the only responsible parties for the skill mismatches endemic to the Russian system – young workers also bear some responsibility. Many of the young people seeking employment have educational degrees that are poorly suited to the demands of industry. This trend stems from a combination of the rapid rise in the wage premium to higher education in the 1990s and early 2000s and the low status of manual labor, which resulted in a boom in higher educational enrollments during the transition (Abankina et al., 2011; World Bank-HSE, "Developing Skills"; Andrushchak and Prudnikova 2011). The number of 17-year olds enrolled in higher education rose from 50% to 89% in the 1990s and 2000s. Whereas in 1990, only about 25% of youth entered higher educational institutions, by 2008, almost 70% of graduates of general secondary educational institutions continued on for a tertiary degree (*Strategiia-2020* 2013, p. 284; Andrushchak and Prudnikova 2011, p. 3).

With respect to the skill mismatch of primary interest to us here, this surge of enrollments in higher education had multiple consequences. One was a negative selection effect for the quality of students in secondary and primary vocational schools as

---

<sup>7</sup> The 2009 survey found that in addition to these variables, a firm's possession of ISO or equivalent international production standards certification also was positively related to sending employees for training.

<sup>8</sup> RLMS 2012.

gifted pupils pursued more high prestige placements (*Strategiia-2020* 2013, p. 280). Another was a lowering of educational quality in many higher educational establishments as schools attempted to attract newly interested students and deal with the mass influx. Finally, and perhaps most importantly, the surge also lent itself to a large expansion of education in fields for which occupational demand was relatively low, such as management, economics and law (Mirkin 2008). Consequently, the problem for many firms was not a low level of human capital, but a low level of human capital *with relevant skills*.

The disjuncture in the labor market caused by a surge in pupils seeking degrees related to skills employers do not value is reflected in the returns of higher education. As studies of the wage premium to education showed, the return on investment in higher education began falling in the latter half of the 2000s. In some fields that were previously most popular – education, economics, law and management – the wage premium to education turned negative, whereas in specialties tied to manufacturing, transportation, communications, and health care, the premium remained positive (Andrushchak and Prudnikova 2011, pp. 30-1). In engineering, where the demand for tertiary education is relatively low, the return on investment remains high (Carnoy et al. 2012, p. 18).

Given the combination of these factors, it is therefore little wonder that firms express dissatisfaction with the quality of and quantity of relevant vocational institution graduates. As firms are unwilling (or unable) to train workers themselves, though, why do they not attempt to modify the existing VET system in order to derive better outputs? The 2013 World Bank-Higher School of Economics report sheds light on this puzzle, arguing that incentives were misaligned. Neither the vocational educational institutions--particularly those at the tertiary level--nor the enterprises had sufficient incentive to invest in the types of skill required by industry. On the one hand, firms feared that provision of general and higher-order skills would be wasted investment due to the high turnover problem and the likelihood of poaching. On the other hand, higher educational establishments were evaluated on the basis of the number of diplomas they produced, not the skill qualifications or match to industry needs of their graduates (WB/HSE 2013, p. 11). Students, for their part, seem to either highly value professional prestige or to be inadequately informed about returns on investment for blue-collar specialists, thus causing them to flock to white-collar programs that teach low demand skills. Firms' unwillingness to send strong signals by investing in their employees' education and the uncertain quality of schools made flight into white-collar work, if not rational, then certainly understandable. This dynamic has all the makings of a classic collective action dilemma: all would be better if there were a more effective system for matching the demand and supply of skill on the labor market. But for no one side is there sufficient incentive to assume the disproportionate initial cost and risk of investing in a major overhaul of vocational education.

Above we noted that the varieties of capitalism literature emphasizes the institutional complementarities linking the organization of production, welfare, and skill formation in advanced capitalist democracies. These linkages allow firms, households, and the state to resolve the types of coordination problems present in Russia. In liberal market economies, specific skill provision is largely the responsibility of households and firms, producing high inequality (including cumulative inequality across generations), a

highly dynamic and competitive labor market, and a high reliance on private household spending for skill formation. The market is generally left to resolve coordination failures. Coordinated market economies feature institutional mechanisms to encourage strategic alliances among labor and firms that encourage joint investment in co-specific assets, reducing the threat of poaching of skilled workers through the use of industry-wide training and certification programs in which employers, unions, and the government all cooperate.

In Russia, elements of both systems coexist, but do so in ways that are not conducive to the solution of collective dilemmas. The Russian system of skill formation remains heavily influenced by the legacy of the planned economy and the state-financed vocational education system, which forced firms into collective arrangements akin to those in coordinated market economies. However, the breakdown of central planning meant that during the transition, as in a liberal market economy, there was very little coordination across firms in skill provision and widespread segmentalism was used to resolve firm-specific skill needs. Crucially, however, the legacies of the Soviet system, as well as limits on market liberalization, impede development of the complementary institutional arrangements that support either a liberal or coordinated market economy. One constraint has been low information: firms, individuals and schools operate in a highly uncertain environment with regard to the types of skills demanded by the labor market. In this paper, we emphasize a related problem: the weakness of mechanisms overcoming commitment problems. Even segmentalist solutions to the skill formation problem arise with difficulty in the absence of close cooperation between firms and schools. Collectivist solutions, such as regional-wide, industry-wide training facilities, are also less likely to be adopted in the absence of a means to enforce agreements among firms, schools, and individual trainees.

Solving these coordination problems thus helps increase both the social and private return on skill formation.. Given the Soviet heritage, it is not surprising that all sides – firms, schools, and households – call for state intervention to take the lead. Such calls are not just for the state to coordinate supply and demand in the market for skill, but also to sink massive resources into rebuilding the VET system into something more useful (Mirkin 2008). A 2008 report prepared by the Russian government interviewed educators, firm directors, parents and young people to discover their perceptions of the current system of skill formation. It quoted one firm manager as observing:

I might need an engineer-technologist or a construction-engineer. But I alone am not capable of paying for his training at some institute. The VUZ needs to gather a group of students for the training, but I don't need a group--only only need 3 or 5 specialists. What to do? I have to cooperate with someone. And the employers will cooperate, but they also are not enough to reach a group. Without the help of the state that Technical Institute simply cannot provide training to the group that formed (Mirkin 2008, p. 122).

Many respondents to this survey – schools, firms, and households – viewed the state as the only party capable of solving what all recognized as a collective action problem in skill provision. Pointing out that only 3% of training costs can be written off as production expenses, firms want the state to grant tax deductions for spending on

training. Schools also clamor for state leadership and want it to finance the upgrading of their facilities. Many remember the old "*sheftstvo*" system fondly due to the certainty it created about the types of skills valued by employers and clear instructions about how training should be conducted. Parents, for their part, remember the security of the state job assignment system (Mirkin 2008, 152-8).

### **Institutional Responses**

Faced with the widespread recognition of the severity of the skills problem noted above, firms, business associations, and regional governments have responded in various ways to try to improve the system. Most common are efforts by firms and schools to adapt practices common in the Soviet era to a market economy, which creates new forms of traditional segmentalist solutions. These new segmentalist approaches tend to be characterized by attempts by the firm to rebuild old partnerships, often around contractual relations between individual firms and particular vocational schools. In these arrangements, firms typically provide schools with technical equipment and curricular advice, as well as practical training opportunities at the firm for students, in exchange for greater input into schools training programs. Often, firms directly pay schools to train individuals who will then be given guaranteed employment by the firm. For their part, schools typically gather multiple partner firms with related production profiles as partners (2-7 is the usual number), allowing them to specialize in training for particular occupational specialties and achieve economies of scale. The contracts between schools and firms ensure that the latter receive the workers expected from the arrangement and help to alleviate fears of poaching or competition for graduates among partner firms.

Firms are sometimes reluctant to pay schools directly for training, however, on the grounds that they are already paying taxes to the state, which should finance education. They may also be concerned about competition for graduates with other partner firms connected to schools. In the absence of coordinating institutions, this merely replicates broader labor market competition on a smaller scale. A relatively common solution, however, is for local governments or firms to sponsor a certain number of scholarships for students at local secondary or tertiary vocational schools (*tselevye nabory*, targeted recruitment). An advantage is that the students chosen tend to be motivated and able, and therefore more attractive as recruits for firms. The students find it beneficial as well, since in addition to having their education paid for, they have a guaranteed job upon graduation. And since the employer contracts with students directly, competition with other firms can be precluded. In Perm' krai, for example, it is typical for 10-12% of the students at local VUZy are sponsored in this way.

Less common are collective solutions to the problem of skill provision, as the mechanisms underpinning Soviet-era collective institutions do not function in a market economy. One example of a successful collective system is the tripartite (employer, labor, government) agreement in Voronezh, under which employers are to pay 1.5% of the wage fund into programs for training and skill upgrading (Mirkin 2008, p. 130). Two general models appear to be common. On the one hand, business associations have taken the lead in some regions, creating job placement services or working with local ministries of education to post notices of job vacancies, training courses, and available specialists. On the other hand, regional governments themselves also take an active role. Such



initiatives generally occur when regional governors – recognizing the value to their regional economy that government intervention in the skill formation system can have – explicitly make skill formation a priority element of regional economic development plans. As the governor of Bryansk put it,

There is an imbalance between the demand and supply of skill on the labor market. Vocational education institutions are lacking in equipment and financing to supply the skills needed on the market, and lack a way of attracting resources from employers. There is also a gap between the ties of vocational educational institutions with major firms. There needs to be more attention to continuous upgrading of skills through comprehensive cooperation of schools and enterprises. Formally, primary vocational education institutions are being absorbed by secondary institutions, but this is not happening in fact. The schools go on doing what they have always done, and the firms do the same. Meantime the economy is groaning for lack of skilled workers. But they won't drop down from heaven until a mechanism for social orders (*zakazy*) is developed that ensures the targeted training of workers for various branches of the economy (Aleksandrova 2012).

In these regions, the government supplies the needed mechanisms.

In order to develop a sense of the variation in skill formation regimes across Russia's regions, as well as to understand the problems that motivate firms, business associations, and regional governments to adopt particular solutions, we studied a large number of Russian regions. In our initial study, we concentrated on regions in which firms, government, and schools have developed new forms of cooperation in skill provision and which had undertaken significant reforms of existing soviet era institutions. We identified these regions by looking at those regions designated as winners in federal competitions to upgrade training programs, such as the 2013 contest run by the Ministry of Education and Science. The ministry chose these winning regions on two criteria: the regional program clearly targeted its vocational education efforts on top-priority economic branches and regions were willing to engage in co-financing arrangements with the federal government. These were not unduly demanding criteria, because 45 regions were chosen to receive federal grants. Another competition was run by the Agency for Strategic Initiatives and was specifically designed to promote a German-style "dual education" model – vocational education combining classroom instruction with systematic on-the-job instruction and mentorship. Here ten regions were chosen. In both cases, the central government's selection documents clearly highlighted that these regions were considered leaders and that these programs were being funded in part to develop best practices to be spread to other regions.

In order to narrow our focus, within the regions that won grants, we concentrated on regions with prominent automobile and electric power generation industries. We did this in part to ensure we were looking at regions with roughly similar economic structures and prominent industrial sectors that demanded the types of high quality skills being particularly undersupplied by the market.

Based on these criteria, we present case studies of four regions, Kaluga, Nizhnii Novgorod, Perm', and Belgorod where there have been active efforts by government and/or businesses to upgrade skill formation. These are drawn from our study of the

documents of these federal competitions, the regional press, and reports from regional government and business associations about their efforts to develop new forms of cooperation among schools, firms, and government in vocational education and training. These four are not necessarily representative of all 83 regions, as to our knowledge there is no systematic coding of regional vocational education regimes in Russia that would allow us to make such a broad claim. Nevertheless, based on our reading of primary sources from many regions, we believe that these cases reveal the menu of options available to help overcome the commitment problems impeding reform of vocational education.. As such, these regions provide a helpful first cut at understanding the variety of available institutional solutions, and help build intuition about the actors and coalitions that push particular policies.

#### *Kaluga and the automotive cluster*

Kaluga represents one model of vocational education formation, in which policymakers regard new skill formation institutions as a means to attract new investment in the region. In Kaluga, the entrepreneurial governor initially created a development strategy designed to take advantage of existing skill formation assets as part of a broader package to attract firms to the region. Presented with the opportunity to lure German automaker Volkswagen to the region, the regional authorities expanded the plan in order to reform vocational education in the region in ways that linked production and training in an innovative, and highly collectivist, way. Not only did the regional government encourage adaptation of the existing Soviet-era system, whereby bilateral contracts between firms and school ensured that skill supply matched demand, but it also adapted elements of the German “dual education” system. These institutions, along with other inducements, helped to seed the ground for the nascent cluster, which culminated in the attraction of other foreign firms. The success of Kaluga's automotive cluster, in turn, has stimulated efforts to create other clusters in the region. In recent years, Kaluga has become a model for other regions as well.

Much of the success of Kaluga's automotive cluster can be directly attributed to Anatolii Artamonov, who was elected governor of Kaluga in 2000, having been a vice-governor for the region in 1996. He had deep roots in the region, having been born there and made his career in agriculture, construction, and party work. He was subsequently appointed by Putin to the governorship in 2005 and again in 2010. As governor, Artamonov has actively sought foreign investment to develop the regional economy. As he frequently observes, the region lacks major mineral resources but has an advantageous location on the highway and rail route between Moscow and Kiev. One of its core skill formation assets is a famous nuclear physics research institute in the town of Obninsk, with which Artamonov had a great deal of experience. He worked in construction in Obninsk and oversaw creation of a joint venture with a Hungarian firm there in 1991.

As governor, Artamonov's initial plan for regional development was to take advantage of the concentration of scientists and skilled workers in and around Obninsk to create high-technology industrial parks with a comparative advantage in skilled labor. The regions' 2006 strategic plan called for the creation of spin-off industries in and around Obninsk. However, at the same time, the German firm Volkswagen began considering Kaluga as a possible site for a greenfield auto assembly plant. Volkswagen had been searching for a suitable location in Russia and visited several places, including

the town of Stupino (near Moscow), where a few foreign companies had already established production facilities.

VW chose Kaluga over Stupino for several reasons. On the logistics side Stupino's infrastructure was underdeveloped and overloaded.<sup>9</sup> Although Stupino was closer to Moscow, which improved logistics, Kaluga was not so much farther as to pose a significant hurdle. Moreover, regional officials were young, competent, and Western-oriented and more than willing to offer inducements, such as an appealing land tract designed for an industrial plant. Most interestingly from our perspective, VW officials noted a high educational level among the population. Finally, and crucially for the company, there was no existing automotive industry.<sup>10</sup> Volkswagen made it clear, however, that Kaluga was chosen because of the willingness of the regional government to work closely with the company and accommodate its needs, not because Kaluga offered a better financial package.<sup>11</sup>

As a condition for VW investment, Governor Artamonov promised full infrastructural support. Part of this related to the physical plant. He designated a tract of land near the city for the greenfield operation and committed the oblast government to build all communications, utilities and transportation infrastructure to the plant and to build housing for employees. Another had to do with insuring an adequate supply of skills for the firm. The regional government did so by converting an existing vocational school into a training center for employees. The oblast appropriated 30 million rubles of its own money, together with another 25 million in federal funds to create the training center (the governor later said he spent one billion rubles altogether).<sup>12</sup> VW in turn committed itself to pay stipends for students and supplements for instructors, to set the curriculum, donate equipment, and issue certificates to the graduates. This model is akin to the "dual education system," ie the German system of training (Streeck 1984). Under the system, the firm signs a contract with an individual future employee to get them trained and into the workplace with minimal need for firm-specific training. As in Germany, about half of a trainee's instructional time is spent at the training center, learning on mock-ups of the equipment used at the plant, and the other half at the plant itself under the tutelage of trained master instructors. Meantime, the firm pays the trainee a stipend. Upon graduation, the trainee receives both a diploma and a certification of their skill, as well as a guaranteed job in his or her specialty.

The cluster emerged when other auto firms – including Peugeot-Citroen and later Volvo Trucks, Mitsubishi Motors, and components firms such as Benteler – followed Volkswagen's example and invested in manufacturing facilities in Kaluga. In response to this, the training center added new instructional modules in 2010 and 2012, and increased the number of firms that contracted with it for training. The expansion of the cluster in turn allowed the training center to expand its intake of students and increase the number of occupational skills it trains for while achieving economies of skill. As with VW's

---

<sup>9</sup> VW executives noted that the local utilities companies could not consistently supply heating and electric power in Stupino during the winter of 2006.

<sup>10</sup> VW prefers not to have to deal with already-established networks of ties between auto industry and local officials.

<sup>11</sup> Leonid Bekasov, "Pochemu 'Fol'ksvagen' vybral Kalugu?" *Vest'*, June 10, 2006.

<sup>12</sup> Artamonov speech at State Council. 23 dec 13

<http://www.admoblkaluga.ru/sub/governor/speech.php?idsp=49>

accessed 27 jun 14.

arrangement, the firms contract with the training center to provide training for specific jobs in exchange for financial and technical support. Later, at VW's instigation, the dual education system was adopted by the local affiliate of the Bauman polytechnic institute for higher vocational education for a degree program in "mechatronics."

Encouraged by the success of the automotive cluster, Artamonov then began creating other industrial territorial clusters, in fields such as bio-technology and radiation medicine, pharmaceuticals, transport-logistics, and tourism. The regional government also began pursuing a general policy of reforming vocational education by merging some vocational schools, tying others to local firms, and converting still others to serve as training centers for the agricultural, pharmaceuticals, and construction industries.<sup>13</sup>

Taken together, the changes in Kaluga's vocational education system pushed it in a more collectivist direction. By encouraging schools to partner with multiple firms under the German "dual education" system, the regional government effectively turned its training centers into central clearing houses of skill. Firms had to jointly agree on definitions of specialties and the content of new modules to be taught at the school, as well as endorse certification. Following Thelen's (2004) classic definition of collectivism, this created pools of labor "to which all firms contribute and from which all firms can draw."

Also important for our purposes is the fact that the region actively promotes its development strategy within Russia. Governor Artamonov has identified himself strongly with the cluster model of development generally and, in particular, with training centers and the dual education system as an institutional solution to the problem of matching skill supply and demand. He persistently seeks federal support and attention for the region's strategy and attempts to use this as a way of convincing other regions to adopt the practices. Kaluga regularly competes in and wins federal competitions for strategic planning, vocational education, innovative development, housing, anti-crisis programs. It also invites governors from other regions, such as Tatarstan and Primorsk, as well as federal ministers to visit the training center and production facilities. Artamonov actively participates in working groups of the Russian State Council on industrial planning as well as German-Russian foreign trade council events. Artamonov also often appears at national forums to call attention to the need to upgrade training as part of the overall need to improve labor productivity in the country.<sup>14</sup> His efforts have born fruit, as other major regions such as Tatarstan and Primorsk have created their own training centers along the lines of Kaluga's.

Meantime, the original training center for the automotive industry continues to expand, adding new modules. For example, in 2012 it added instructional units for painting, conveyer assembly, technical service, quality control, and logistics. It trains employees for many firms in the region, not just Volkswagen and Peugeot-Citroen, including employees for industries related to the automotive sector, such as component suppliers, and for firms outside industry. All told, the center now trains over 30 occupational specialties. The regional government, for its part actively promotes the center as a major asset for other foreign investors considering Kaluga. In particular, the

---

<sup>13</sup> "V Kaluge prokhodit I oblastnoi kadrovyy forum," FK-Novosti, March 22, 2012; Kaluga24.TV, "Sistemu profobrazovaniia Kaluzhskoi oblasti moderniziruiut k 2020 godu," May 12, 2014.

<<http://dlib.eastview.com/browse/doc/26800565>>

<sup>14</sup> [http://www.admoblkaluga.ru/sub/econom/Gos\\_prog\\_razv/Strategy/](http://www.admoblkaluga.ru/sub/econom/Gos_prog_razv/Strategy/)

government emphasizes that it uses a modified form of the German dual-education system, under which students have guaranteed stipends while training, guaranteed jobs upon graduation, and the opportunity to receive three graduation documents--a diploma, a certificate from the enterprise, and a certificate from the Russian-German trade council.<sup>15</sup>

Kaluga was prepared to take advantage of Volkswagen's desire to establish a greenfield assembly plant within a reasonable distance of Moscow. It did so because the governor had already determined that the region needed to invest in a territorially-based development plan. The region suffers from a declining population and weak economy; traditionally it has been a *dotatsionnyi region*, ie one dependent on federal subsidies. However, it has certain competitive advantages--proximity to Moscow, good communications, the legacy of the Obninsk nuclear physics institute, and an economy based on manufacturing, not natural resources. The catalyst for the cooperative solution to the skills problem was the external investment by a German auto firm, which, complementing the governor's own goal of building on existing resources such as human capital and geographic location, permitted a territorial cluster model of development to take root. The fact that the initial cluster formed around German automotive firms led directly to the adoption of the German dual education system for vocational training at a time when national policy was strongly encouraging regions to implement the German model anyway (but meeting little success).

#### *Perm' krai: "turnkey training"*

In contrast to Kaluga, where the governor is clearly the lynchpin for the region's efforts at upgrading skill formation and tying it to a regional development strategy, in Perm' krai the role of catalyst for reform seems to have been played by the regional branch of the Trade-Industrial Chamber (PTPP). In 2012, the association developed a plan for German-style dual education called "turnkey training" ("*rabochie kadry 'pod kliuch'*"). The TPP explicitly cites the success of the German model as the basis for this program. It began after a delegation from the Perm' TPP visited its German sister-city Duisberg and met with its regional chamber of commerce and industry. It noted that Germany's regional chamber devoted most of its efforts to this work, and decided to launch a similar effort in Perm'. There continue to be numerous contacts between Perm' and German business and government officials about vocational education and training across several different branches of industry. Like Kaluga, Perm' has publicized its program (it frequently touts the fact that President Putin praised it) and won federal grant competitions to fund it.

The Perm' TPP sees its role as coordinating the efforts of the regional government (not just the governor, but also the regional education ministry and branch ministries), firms, and schools. It publicizes and promotes the program. It develops project proposals for submission to federal contests. TPP's most direct role is in surveying the firms of the region. The region has about 15,000 firms in all. In the first year, TPP surveyed about 850 firms to ascertain their current and near term personnel requirements. Based on this information, TPP draws up a region-wide order (*zakaz*) for specialists. The regional government then lets schools bid for contracts to train individuals according to the plan

---

<sup>15</sup> <http://www.investkaluga.com/rukovodstvo/sotrudniki-i-sotsialnaya-bezopasnost/poisk-personala/>  
<<accessed June 29, 2014>>



requirements. The government provides "certificates" to schools which serve as basis for financing training (ie the funding goes with the student).

The collective nature of the system stems from two points. First, the use of a business association to coordinate skill formation across schools with the regional government and at the regional level is inherently collectivist. Second, the program also rests on the German dual education system. The key is the use of individual contracts between students, schools, and firms. These ensure guaranteed employment upon completion of program and a commitment by firms to providing in-firm training to complement schooling. As of the 2013-14 academic year, the system encompassed about a third of the students in the secondary-level vocational education institutions.

Now the TPP is also actively encouraging a cluster approach to development by matching territorial concentrations of industry to schools and transforming and extending old primary and secondary vocational schools into training and resource centers. It is also encouraging firms to fund and equip these centers (for example, Lukoil donated equipment for four training wells for oil industry specialists.) The TPP is working with the city Krasnokamsk to develop a machine-building cluster comprising the Krasnokamsk repair-mechanical factory, the German firm DVG, and the Krasnokamsk pulp-paper specialized secondary vocational school, with DVG donating the equipment to the training center.<sup>16</sup> When local aviation-engine maker Perm' Motor Works won a large order in 2014 to build 156 engines for Ilyushin-76 military transport planes, it worked out a plan with TPP for training and retraining at a new multi-functional center for applied skills.<sup>17</sup>

In the case of Perm', the business association appears to use information and persuasion to encourage regional-level coordination and overcome the collective action problem inherent in skill formation and in attempts by individual firms to reform it. The long-term success of the model will depend on the cooperation of firms interested in improving the supply of qualified workers, and of government, which seeks to pursue the economic development of the region. The key is the willingness of government and enterprises to link funding of education to guarantees of employment. While the program supplements the many bilateral contractual ties between firms and schools that continue to operate, it does not replace them however. Nonetheless, it may not be unreasonable to suppose that the TPP's efforts build on existing ties among firms and between firms and government in Perm' to address problems of regional development.<sup>18</sup>

#### *Nizhnii Novgorod: "the beautiful country of vo-tech"*

In Nizhnii, much of the impetus for cooperative solutions to skill upgrading was rooted in increased demand for regional production. In particular, between 2008 and 2013, Russia's defense procurement spending doubled, providing a substantial stimulus for skill upgrading in a region with a substantial Soviet-era defense industry, such as

---

<sup>16</sup> <<http://www.myshared.ru/slide/627633/>>

<sup>17</sup> <[<sup>18</sup> Perm's unusually consensual elite culture has often been noted by Russian social scientists. For example, N. Iu. Lapina and A. Chirikova, \*Strategii regional'nykh elit: ekonomika, modeli vlasti, politicheskii vybor\*. \(Moscow: Institut nauchnoi informatsii po obshchestvennym naukam, 2000\); N. Iu. Lapina and A. E. Chirikova, \*Regiony-Lidery: Ekonomika i politicheskaia dinamika\*. \(Moscow: Izdatel'stvo Instituta sotsiologii RAN, 2002\).](http://permtpp.ru/news/projects/ptpp-pomozhet_podgotovit_kadry_dlya_permskogo_motornogo_zavoda-_/></a></p></div><div data-bbox=)

Nizhnii.<sup>19</sup> In order to keep up, the region needed to quickly provide skilled workers to fill positions in the rapidly expanding defense sector. Unlike our other case studies thus far, reform of the vocational education system, as well as reform to bring skill production in line with demand could not have occurred without substantial assistance from the federal government. Indeed, much of the new federal spending on defense since 2011 has gone to new training resource centers to enable defense to manage increasing demand through the expansion of production lines and increased productivity. The federal funds were deployed to seed new centers that would then subsequently be financed jointly by the regional government and firms. Although much of the impetus behind reforms came from the federal and regional government, the regional association of industrialists and entrepreneurs nonetheless also played a key coordinating role by convincing firms to cooperate with the government and invest in the new centers. According to the local press, the process has taken hold and now two new resource centers are being built each year.

Prior to the creation of the regional resource centers, little had been done in the region. In Nizhnii, as elsewhere, firms, schools and government all recognized that the misallocation of skill was becoming acute as the economy recovered in the 2000s. Firms complained about the quality of graduates of schools and the amount of effort they had to put into training. For their part, school officials complained that private sector firms did not want to invest in training and wanted to hire already-trained workers, and that enterprises were not doing enough to make manual labor attractive (for example, they abandoned social benefits such as worker dormitories). Schools also complained that firms were creating their own training centers rather than working with the existing schools to upgrade training facilities. Experts noted that there was a basic organizational problem: primary-level general educational schools are under municipal government jurisdiction, vocational schools are under oblast' jurisdiction, and firms are private. Coordinating across all of these authorities proved difficult. They pointed out that it is inconvenient and expensive for young people from outside the capital city to come in for training.

Gradually, however, and especially since 2007, closer bilateral ties between firms and schools have been forming as have collective resources such as the training centers mentioned above. In 2007, the oblast' government won federal funding in a grant competition to upgrade vocational schools into resource centers. Since then the region has been converting about two schools per year. In the initial phase, the federal government contributed half the funding and the rest was split equally between firms and the regional government. Since the first six centers were created, half the funding comes from the regional budget, and the rest comes from firms. In addition, in order to promote a more appealing image for manual labor, the regional government agreed to fund the production of a 20-episode series of television shows called "the beautiful country of votech" (*krasivaia strana prof-tekha*).

The regional government has typically sought to locate its converted resource centers near existing manufacturing sites, for example a training center for the chemical industry was situated close to a large chemical plant. The region is also planning to

---

<sup>19</sup> Igor' Stanovov, "Oboronka pomozhet nashei ekonomike uiti ot syr'evoi zavisimosti," *Birzha*, July 23, 2013. About 14% of regional output is from the defense industry; about 16% comes from metallurgy; about 17% from automotive

expand existing automobile production by developing a new automotive training center near Avto-GAZ and using it to attract foreign automotive firms (it has targeted VW and Daimler-Benz). It is also taking advantage of the large increases in federal defense spending to build new training and resource centers around defense industry facilities.<sup>20</sup>

The regional government has incorporated the training centers into its long-term (2006-2020) strategic plan for economic and social development, which it submitted to a recent federal competition. A key component of the plan is to develop industrial clusters to take advantage of complementarities among firms and between firms and vocational education institutions. The governor created a coordinating council on human resources management for the region, which meets twice a year. Its role is to forecast the demand for skill on the labor market to ensure that the training facilities will meet anticipated needs.

It appears that business associations play a modest role. The regional TPP holds an annual career fair. The NAPP (the regional branch of the RSPP), in cooperation with the regional ministry of education, drafted a plan for the development of vocational education, but it consists entirely of creating a monitoring service to assess the needs of the labor market for specific job specialties so that the regional government can draw up annual orders for training by vocational schools. The association makes an effort to convince firms to invest resources and effort into the training centers and has also helped to convert two local primary vocational schools into training centers. Thus, although there is some collectivism introduced through the activities of these associations, in general much of the coordination occurs at other levels.

As elsewhere, vocational schools have also sought out firms as sponsors and signed contracts with them for training. They have developed new organizational forms and opened new occupational profiles to correspond to market demand. Some of the more enterprising schools have made it a point to bring in employers to administer graduation exams and advise on curriculum. These reflect efforts to adapt traditional Soviet practices to new market-oriented conditions.

Lately Nizhnii Novgorod appears to have also embraced the dual education system as the basis for linking firms and schools. Since January 2014 the governor has been promoting it explicitly. However, well before the latest campaign, when vocational schools have signed contracts with particular enterprise, the enterprise typically agrees to provide practical in-firm training (*praktika*) to students at vocational schools, much as in the Soviet era and in keeping with the spirit of dual education.

#### *Belgorod--vocational education reform as a signature project*

Belgorod oblast' is located in the black-earth zone, just north of the Ukrainian territories of Khar'kiv and Luhansk. Agriculture is a major branch, but so is mining, as the region is rich in iron and other ores. Belgorod has one of Russia's longest-serving governors, Evgenii Savchenko, who was first appointed governor in 1993, then elected governor in 1995, 1999 and 2003; then appointed in 2007, and elected again in 2012.

Reform of vocational education began when several agro-industrial firms merged into a regional holding company called Agro-Belgor'e. Agro-Belgor'e then

---

<sup>20</sup><http://proxylibrary.hse.ru:2067/artefact3/ia/ia5.aspx?lv=6&si=DiKnek2R&qu=2212&st=0&bi=32&xi=&nd=52&tnd=0&srt=0&f=0>

immediately began to assume responsibility for the primary-level vocational schools that prepared skilled workers for agricultural industry. Agro-Belogor'e signed a three-way agreement with the regional government and the administration of a local vocational school under which the holding company would take over the school.<sup>21</sup> The company agreed to invest in new equipment and curriculum for the school, and in turn to hire the graduates at decent pay. The company also agreed to adapt the German dual education model and to provide systematic in-house instruction to complement the training at the reformed school. The firm spent some 55 million rubles, not just on upgrading equipment, but also in providing for the living conditions of the students.<sup>22</sup> Agro-Belogor'e not only donated new equipment to the school, it also reformed the curriculum. Some specialties were dropped, while others were added, such as veterinary care and agronomics. This allowed the school to be upgraded to the status of a *tekhnikum* (ie a specialized secondary school). The school is also now preparing managers for fields such as veterinary medicine and agronomics.

Improvements were many. The dual education system means that graduates receive both a diploma and a certificate of skill. All students have a space in the residence hall, three free meals a day, and a corporate stipend. The enterprises under Agro-Belogor'e place an order for training a specified number of individuals, and the school admits as many students as the firm needs, so that every graduate is guaranteed a job.<sup>23</sup> Moreover, the system insured that such workers were trained precisely to Agro-Belogor'e's specifications. The system proved attractive to other firms and another agricultural firm, a producer of animal feed, followed suit by taking over a school for its needs.

Starting in 2010, Savchenko began to promote the takeover of schools as a model for other schools and firms as well, urging agricultural enterprises to assume sponsorship (*sheftstvo*) over other schools in order to meet their growing needs for skilled labor and to adopt the dual education model. He also urged firms in the energy and construction industries to adopt it, as well. As he regularly points out to managers, to the extent that they take responsibility for vocational education, they will benefit by developing a stream of skilled labor for their own needs. He also urges vocational schools to find themselves "anchor" firms as sponsors. Under the governor's persistent pressure, firms and schools have established extensive bilateral ties. By mid-2013, two thirds of the region's specialized secondary schools had found sponsoring firms.<sup>24</sup> In many cases, the government signed three-way partnership agreements with schools and employers specifying how the schools will be funded, in what specialties they will provide vocational education, and how the dual education system will be implemented.<sup>25</sup> The template is that the government provides basic financing to the schools so long as they meet particular standards, while firms supply the equipment and take on administrative functions including evaluating the quality of the training. Students sign contracts with

---

<sup>21</sup> September 2, 2011. <[http://www.agrobel.ru/presscenter/smi\\_o\\_nas/1945](http://www.agrobel.ru/presscenter/smi_o_nas/1945)>

<sup>22</sup> T. Soboleva, "Vam kart-blansh, gospoda!" *Belgorodskaya pravda*, August 7, 2011 <<http://www.belpravda.ru/?q=node/831>>

<sup>23</sup> Iu. Koren'ko, "Sovremennyyi podkhod k kadram dlia sebia," *Belgorodskaya pravda*, January 24, 2014 <<http://www.belpravda.ru/news/24.1.14-2939.html>>

<sup>24</sup> T. Soboleva, "Mnogo generalov, a soldat tak malo...", *Belgorodskaya pravda*, June 26, 2013 <<http://www.belpravda.ru/?q=node/2419>>

<sup>25</sup> N.a., "K 2015 godu v regione budet sozdana normativnaya baza dlia vnedreniya chastno-gosudarstvennogo partnerstva v sisteme profobrazovaniia," *Mediatron*, November 13, 2012. <<http://mediatron.ru/node/24045>>

the government (or firm) under which they must repay the cost of their education in the event they do not take the proffered job.<sup>26</sup> The governor has also encouraged schools to develop their own income streams. One polytechnical school for the construction industry makes furniture both for own needs and to fill consumer orders. As the director put it, "50% of the school's funding comes from the oblast, 50% from the sponsoring enterprise, and another 50% from its own earnings. 50 plus 50 plus 50 equals 150."<sup>27</sup>

Governor Savchenko has signalled in every way that the reform of vocational education throughout the region is a matter of the highest priority for his government. He is unsparing in his criticism of the old system. Characterizing the system of primary vocational education in his region as useless, the governor of Belgorod tells audiences, "the way they teach, it would be better if they didn't teach at all!" ("*Uchat tak, chto luchshe by ne uchili sovsem!*").<sup>28</sup> The government developed a plan for putting the whole region onto the dual education system over the 2011-2015 period, committing the oblast budget to spending 680 million rubles on the effort, with another 57 million coming from enterprises. The plan won a federal competition for additional funds.<sup>29</sup> The governor meets weekly with the senior government officials to discuss the implementation of the plan.<sup>30</sup> In addition, in 2012 Savchenko assigned responsibility for the reform to the head of the regional government's department on personnel policy who is simultaneously first deputy governor, a sign of the very high status of the initiative. The deputy of the personnel department, Ol'ga Pavlova, has been indefatigable in promoting the model.<sup>31</sup>

While many of these reforms seem to be adaptations of the Soviet, segmentalist model of bilateral ties, it is important to note that there are collectivist elements, as well. For example, Savchenko created regional-territorial employer councils as mechanisms to assay firm forecasts for labor and generate aggregate orders for schools without bilateral ties to specific firms to train the desired number and assortment of specialists for those firms who are likewise unconnected to a specific school. In 2013 the regional personnel department created a non-commercial agency for developing a system of independent assessment and certification of skills, with a board that includes representatives of business (including the head of Agro-Belgor'e), another classic collectivist institution.<sup>32</sup> At the beginning of 2014 this agency held a conference in January 2014 with the heads of the major firms, schools, training and personnel organizations, and employer associations to draw up a plan for evaluating and certifying skill.<sup>33</sup>

It is clear that the governor has made comprehensive reform of vocational education a signature priority of his leadership. The reforms he advocates combine

---

<sup>26</sup> In practice it has proven difficult to collect on these loans, see N. Kutkovaia, "U istokov dela-ochen' bol'shogo," *Belgorodskaiia pravda*, December 25, 2013. < <http://www.belpravda.ru/news/25.12.13-2889.html> >

<sup>27</sup> O. Goncharenko, "Reforma srednego profobrazovaniia--garantiia razvitiia i modernizatsii," *Belgorodskaiia prava*, February 2, 2013 <<http://www.belpravda.ru/?q=node/2076>>

<sup>28</sup> T. Soboleva, "Vam kart-blansh, Gospoda!" *Belgorodskaiia pravda*, July 8, 2011.

<sup>29</sup> n.a., "V Belgorode na realizatsiiu tselevoi programmy professional'nogo obrazovaniie za piat' let potratiat bolee 680 millionov rublei iz oblastnogo biudzheta," *Mediatron*, September 28, 2011 < <http://mediatron.ru/news-2011-sen-018322.html>>.

<sup>30</sup> N.a., "K 2015 godu v regione budet sozdana normativnaia baza dlia vnedreniia chastno-gosudarstvennogo partnerstva v sisteme profobrazovaniia," *Mediatron*, November 13, 2012. < <http://mediatron.ru/node/24045>>

<sup>31</sup> N.a., "Belgorodskoi oblasti nuzhny rabochie kadry," *Mediatron*, February 9, 2012 <<http://mediatron.ru/press-release-24807.html>>

<sup>32</sup> <http://rark31.ru/about>

<sup>33</sup> < <http://rark31.ru/wp-content/uploads/2014/05/otchet-po-gosadaniyu-1-kvartal-2014.pdf>>

traditional segmentalist practices based on bilateral ties between firms and schools with more institutionally ambitious efforts at pooling skill formation, certification, and accreditation based on sectoral and territorial business associations. Lavish press attention to bilateral relations between firms and schools contrasts with the meager coverage of more collective institutions, suggesting perhaps that they are much less robust. Nonetheless, the governor's focused attention to the need to overcome the collective action dilemma in skill formation has enabled the region to accomplish a good deal by reviving older Soviet practices ("*nastavnichestvo*" and "*sheftstvo*") and updating them with closer coordination between firms and schools and with entirely new funding models. The contractual basis for such relations reflects a market-oriented solution to the coordination problem, but, once a pioneering firm took the first step by taking control of a vocational school and remaking it along dual education lines, the governor's active intervention is responsible for the spread of the model to the entire region.

## Conclusions

In all four regions, reform of vocational education occurred by renovating traditional Soviet-era institutions featuring strong ties between individual firms and individual schools. In nearly all cases, regions adapted older Soviet practices of forging bilateral ties between specific firms and schools by explicitly incorporating the German dual education model and using tripartite agreements as enforcement mechanisms and ways of providing government support. This later trend is particularly interesting, as it indicates that as the dual education model has spread, it has required new and far more intense cooperation between firms and schools. Firms have taken responsibility for funding, equipping, and supervising vocational education. Kaluga, Perm' and Nizhnii Novgorod feature significant elements of collectivism in training and information provision, as firms pool resources in order to sponsor training centers that provide them with workers and specialists possessing the qualifications demanded. Belgorod's template has been largely segmentalist, as large firms sign agreements with particular schools. In all four cases, however, intervention by external actors, above all the regional government, but sometimes also regional business associations and the federal government, appear to have been crucial to enabling firms, schools and individuals to take advantage of cooperative arrangements. The implication is that willingness of firms to participate in efforts to reform vocational education seems to vary with the government's interest in encouraging and funding the reform..

It is important to note that in the more collectivist regions we discussed, efforts to expand dual education and forge bilateral firm-school ties were also accompanied by serious pushes to create regional certification systems and to collect data from firms that could be used to guide training priorities at state funded schools. Here again, the central role of business associations and leadership from regional governments was critical. Similarly, less collectivist, market-based solutions to the coordination problem also rarely sprang up spontaneously. Most were engineered by government effort. Government and business associations provided the commitment mechanisms needed to achieve these institutional solutions by providing funding and information: funding through joint investment by government (both federal and regional budget funds) and business (through commitments by firms to investment in new equipment, stipends to trainees and

instructors, jobs for graduates, and involvement in curriculum development, certification and accreditation of schools). Typically formalized in two-way or three-way contracts, these agreements combined updated forms of segmentalism with collectivist practices on the part of sector-wide groups of employers.

It is also important to note that the reforms presented in these case studies are relatively recent. How successful they are remains to be seen. For example, how well will the new forms of cooperation between firms and schools manage to meet the firms' needs for trained workers? How lasting will these ties prove over the long-term? And will the efforts to invest in vocational education produce technological innovation, entrepreneurship, and new investment? The real test of the reform of vocational education will be its impact on the modernization and diversification of the Russian economy.

Based on our findings, we believe that the research agenda for vocational education and training in Russia should proceed in three steps, which we hope to address in subsequent projects. First, although we believe that the cases we discussed in this paper encapsulate both the totality of the available policy menu for regions and firms looking to upgrade skill, we cannot make claims about the extent to which different policies are adopted. Consequently, a necessary first step is cataloguing regional variation in the extent and type of vocational education reforms carried out in the region. Second, and building off a map of regional variation, it is necessary to delve further into how and why particular reforms occur in some regions, but not others. Of particular importance is defining the conditions under which the state takes the lead in overcoming regional coordination problems, when firms or associations take it upon themselves to do so, and when no reforms occur. Also crucial is identifying whether the actors that ultimately solve the coordination problem have preferred vocational education strategies or otherwise constrain the universe of possible policies. Finally, it is necessary to draw on the previous steps in order to ascertain the efficacy of particular vocational education reforms and the coalitions that initiate them for resolving the fundamental skill divide in Russia. Resolving these three issues promises not only to provide valuable insights into policymaking (as well as valuable suggestions for it), but also helps to resolve fundamental questions about how and when vocational education reform occurs in transition economies.

## References

- I. V. Abankina, T. V. Abankina, L. M. Filatova, E. A. Nikolaenko, "Disbalans sprosa i predlozheniia na rynke professional'nogo obrazovaniia v sovremennoi Rossii," (working paper, Higher School of Economics, 2011)
- Andrushchak, G. V. and Prudnikova, A. E., Dinamika otdachi ot professional'nogo obrazovaniia i differentsiatsiia dokhodov vypusknikov Rossiiskikh vuzov," preprint WP 10/2011/02, Seriia WP 10, Higher School of Economics, 2011.
- Acemoglu, D. and J. Pischke. (1999). "Beyond Becker: Training in Imperfect Labour Markets," *The Economic Journal* 109: F112-F142.
- Acemoglu, D. and J. Pischke. (1998). "Why Do Firms Train? Theory and Evidence," *The Quarterly Journal of Economics* 113 (1): 79-119.
- Ardal'ianova, E. (2012) "Primorskie predpriiatiia perekhodiut na samostoiatel'nui podgotovku kadrov," *Zolotoi rog* (Vladivostok), January 31, 2012.
- Agentstvo strategicheskikh initsiativ [ASI], "Sistemnyi proekt 'Podgotovka rabochikh kadrov, sootvetstvuiushchikh trebovaniiam vysokotekhnologichnykh otraslei promyshlennosti, na osnove dual'nogo obrazovaniia'," (Moscow: 2014).
- Busemeyer, M.R. and T. Iversen. (2014). "The Political Economy of Skills and Inequality," *Socio-Economic Review* 12: 241-243.
- Busemeyer, M. R. and C. Trampusch (2012). "Introduction: The comparative political economy of collective skill formation," In M. R. Busemeyer and C. Trampusch (Eds.), *The Political Economy of Collective Skill Formation*, pp. 3–38. Oxford: Oxford UP.



- Carnoy, M., P. Loyalka, G. Androushak, and A. Prudnikova (2012). "The economic returns to higher education in the BRIC countries and their implications for higher education expansion," Higher School of Economics, Basic Research Program Working Papers: WP BRP 02/EDU/2012.
- Clarke, S. (1996). *Labour Relations in Transition: Wages, Employment and Industrial Conflict in Russia*. Cheltenham, UK: Edward Elgar.
- Clarke, S. (2007). *The Development of Capitalism in Russia*. London: Routledge.
- Commander, S. and R. Jackman (1997). "Firms and government in the provision of benefits in Russia," In M. Rein, B. L. Friedman, and A. Wörgötter (Eds.), *Enterprise and Social Benefits after Communism*, pp. 95–114. Cambridge: Cambridge UP.
- Culpepper, P. (2000). "Can the State Create Cooperation?: Problems of Reforming the Labor Supply in France," *Journal of Public Policy* 20(3): 223-245.
- Eichhorst, W., N. Rodriguez-Planas, R. Schmidl, and K. F. Zimmermann (2012). "A Roadmap to Vocational Education and Training Systems Around the World". *Discussion Paper No. 7110*. IZA: Bonn, Germany.
- Finegold, D. and D. Soskice, "The Failure of Training in Britain: Analysis and Prescription," *Oxford Review of Economic Policy* 4:3 (1988), pp. 21-53.
- Gehlbach, S. (2008). *Representation through Taxation: Revenue, Politics, and Development in Postcommunist States*. Cambridge: Cambridge UP.
- Vladimir Gimpelson, Rostislav Kapeliushnikov, and Anna Lukyanova (2009). "Stuck Between Surplus and Shortage: Demand for Skills in the Russian Industry". *IZA DP No. 3934*. IZA: Bonn, Germany.

- Vladimir E. Gimpel'son (September 2010). "Nuzhny li nashei promyshlennosti kvalifitsirovannye rabotniki? Istoriia poslednego desiatiletiia," *Ekonomicheskaiia sotsiologiia* 11(4): pp. 24-68.
- Gimpel'son, V. and R. Kapelyushnikov (2011). Labor market adjustment: Is Russia different? Institute for the Study of Labor, Discussion Paper No. 5588.
- Hall, P. A. and D. Soskice (2001). An introduction to varieties of capitalism. In P. A. Hall and D. Soskice (Eds.), *Varieties of Capitalism: The Institutional Foundations of Comparative Advantage*, pp. 1–68. Oxford: Oxford UP.
- Hellman, J.S. (1998). "Winners Take All: The Politics of Partial Reform in Postcommunist Transitions". *World Politics* 50(2): 203-234.
- Hellman, J. S., G. Jones, and D. Kaufmann (2000). Seize the state, seize the day: State capture, corruption and influence in transition. World Bank, Policy Research Working Paper No. 2444
- Hewett, E.A. (1988). *Reforming the Soviet Economy: Equality versus Efficiency*. (Washington, D.C.: Brookings Institution.
- Iversen, T. and J. D. Stephens (2008). "Partisan Politics, the Welfare State, and Three Worlds of Human Capital Formation". *Comparative Political Studies* 41: 600-37.
- Kornai J. (1992). *The Socialist System: The Political Economy of Communism*. Princeton: Princeton University Press.
- Matthews, M. (1982). *Education in the Soviet Union: Policies and Institutions*. New York: Harper Collins.
- Mirkin, M. (2008). "Otchet po rezul'tatam vyborochnogo issledovaniia uchrezhdenii professional'nogo obrazovaniia, kommercheskikh organizatsii i

- negosudarstvennykh i nekommercheskikh organizatsii v chasti razvitiia instituta chastno-gosudarstvennogo partnerstva, izpol'zuemykh form ikh effektivnosti i bar'erov v razviti". Moscow: Federal'noe gosudarstvennoe obrazovatel'noe uchrezhdenie vyshhego professional'nogo obrazovaniia Finansovaia Akademiia pri Pravitel'stve Rossiiskoi Federatsii.
- Morrison, Claudio and G. Schwartz (2003). Managing the labour collective: Wage systems in the Russian industrial enterprise. *Europe-Asia Studies* 54 (4), 553–574.
- OECD (2013). *Education at a Glance 2013*. Paris: OECD.
- Remington, Thomas F. (2011). *The Politics of Inequality in Russia*. Cambridge: Cambridge UP.
- Russian Union of Industrialists and Entrepreneurs (2013). Professional'nye kadry dlia biznesa: Praktika kompanii v oblasti obrazovaniia i obucheniia. Moscow: RUIE.
- Russian Union of Industrialists and Entrepreneurs (2014). Doklad o sostoianii delovogo klimata v Rossii v 2010–2013 gg. Moscow: RUIE.
- RSPP, "Doklad o sostoianii delovogo klimata v Rossii v 2010-2013 godakh," 2013
- Saar, E., M. Unt, I. Kogan (2008). "Transition from Educational System to Labour Market in the European Union: A Comparison between New and Old Members," *International Journal of Comparative Sociology* 49(31): pp. 31-59.
- Slinko, I., E. Yakovlev, and E. Zhuravskaya (2005). Laws for sale: Evidence from Russia. *American Law and Economics Review* 7 (1), 284–318.
- Strategiia-2020 (2013). *Strategiia-2020: novaia model' rosta--novaia sotsial'naia politika: Itgovyi doklad o rezul'tatakh ekspertnoi raboty po aktual'nym*

- problemam sotsial'no-ekonomicheskoi strategii Rossii na period do 2020 goda.*  
Moscow: Delo. [Strategiia-2020]
- Streeck, Wolfgang. *Industrial Relations in West Germany: A Case Study of the Car Industry.* London: Heinemann, 1984.
- Swenson, Peter A. (2002). *Capitalists against Markets: the Making of Labor Markets and Welfare States in the United States and Sweden.* New York: Oxford University Press.
- Thelen, Kathleen. (2001). "Varieties of Labor Politics in the Developed Democracies," in Hall, P. and Soskice, D., eds. *Varieties of Capitalism: The Institutional Foundations of Comparative Advantage.* New York: Oxford University Press: pp. 71-104.
- Thelen, Kathleen. (2004). *How Institutions Evolve: The Political Economy of Skills in Germany, Britain, the United States, and Japan.* Cambridge: Cambridge University Press.
- Thelen, Kathleen. (2014). *Varieties of Liberalization and the New Politics of Social Solidarity.* Cambridge: Cambridge University Press.
- World Bank and Higher School of Economics, Moscow (2013). "Developing Skills for Innovative Growth in the Russian Federation," Report no. ACS1549.  
Washington, DC: World Bank. [HSE-WB 2013]

**Thomas F. Remington**

Goodrich C. White Professor of Political Science, Emory University; Senior, Research Associate, International Center for the Study of Institutions and Development, Higher School of Economics, Moscow, Russian Federation; [polstfr@emory.edu](mailto:polstfr@emory.edu)

**Israel Marques**

Columbia University; Research Associate, International Center for the Study of Institutions and Development, Higher School of Economics, Moscow, Russian Federation; [imarques@hse.ru](mailto:imarques@hse.ru)

**Any opinions or claims contained in this Working Paper do not necessarily reflect the views of HSE.**

**© Remington, Marques, 2014**