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# Sector-Switching in Transition Economies: A Case Study of Kazakhstan's Health Care Sector

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**SECTOR-SWITCHING IN TRANSITION ECONOMIES:  
A CASE STUDY OF KAZAKHSTAN'S HEALTH CARE SECTOR**

By

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M.P.A., Monterey Institute of International Studies, 2004

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2011

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## **APPROVAL OF THE REVIEW COMMITTEE**

This dissertation has been duly read, reviewed, and critiqued by the Committee listed below, which thereby approves the manuscript of Dariga Chukmaitova as fulfilling the scope and quality requirements for meriting the degree of Doctor of Philosophy in Political Science.

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## ABSTRACT

Sector-switching in transition economies: a case study of Kazakhstan's health care sector

By

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Claremont Graduate University: 2011

The dissertation examines the economic and behavioral factors influencing 'sector-switching' in Kazakhstan's health care industry. Sector-switching involves doctors moving from the national to the private system, which is not well established, thereby raising questions about why the switch occurs. It addresses the question: why health care professionals in Kazakhstan switch from the public sector to similar jobs in the private or nonprofit sectors? This study addresses a key issue in public management (sector switching) and also offers insights into the dynamics of the transition from a centralized economy to a market economy. As such, its findings have 'real-world' applications beyond the particular case being studied i.e. Kazakhstan.

This study is based on two simple claims. First, fundamental to the reforms that characterize transitional economies is effectively moving public sector employees to a nascent private sector. Second, such switches are unique because the risks related to transitioning to the private sector are different in transitional economies than in established market economies. Thus, the study considers: the degree to which economic and behavioral factors interact with different perceptions of sectoral risk, and subsequently shape the decision to move from the public sector to the private sector; in particular in Kazakhstan's health industry.

The data supporting this study come from a survey covering approximately 1,000 health care professionals (practicing physicians working in both the public and private health care sectors) from

nine regions of Kazakhstan. The data includes information about individual incentives physicians have for switching sections and their perceptions of perceived risks and uncertainties given the economic transition currently underway in Kazakhstan.

The findings of the research suggest the strong support for the proposed hypotheses and have revealed some of the dynamics of sector switching behavior and the characteristics of “sector switchers” in Kazakhstan. The results demonstrate that physicians’ overall job dissatisfaction, relative salary compared to physicians in a different sector, their risk-taking behavior, the national health care system’s deterioration compared to previous years, as well as problems with providing medical services in the country affect physicians in making their decision to change their employment sector.

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## CHAPTER I

### 1.0. INTRODUCTION:

My dissertation considers: why health care professionals in Kazakhstan switch from the public sector to similar jobs in the private or nonprofit sectors? Sector switching has largely been primarily studied by public management scholars (see for example, Bozeman and Ponomariov, 2009; Su and Bozeman, 2009). Not surprisingly, the extant literature has focused on understanding the factors that motivate people to move *from* the private *to* the public sector (Paul Light, 1999)<sup>1</sup>. Much less is known about ‘switches’ in the opposite direction. Of course, in well-established markets,<sup>2</sup> such switches – from public to private - might be easily explained by higher salaries in the private sector. Thus, even if the switch to the private sector comes with additional risks and hassles, such as: lawsuits, paperwork, haggling with insurance companies, and less job security, these issues are likely accounted for in the increased salary. That is, the risk-reward calculus is clear. But, what explains movements from the public sector to the private sector when this calculus is not so clear; in particular, in transitional-economies. This is the central issue in my study.

This study, then, is based on two simple claims. First, fundamental to the reforms that characterize transitional economies is effectively moving public sector employees to a nascent private sector. Second, such switches are unique because the risks related to transitioning to the private sector are different in transitional economies than in established market economies. Thus, the study considers: the degree to which economic and behavioral factors interact with different

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1 Boardman, C., Bozeman, B., & Ponomariov, B. (2010). Private sector imprinting: an examination of the impact of private sector job experience on public managers’ work attitudes. Current trends in public personnel administration. *Public administration review*, 70(1), January/February, 50

2 where there exists private property protection, a good legal system, the rule of law, and efficient, supportive and uncorrupt government

perceptions of sectoral risk, and subsequently shape the decision to move from the public sector to the private sector; in particular in Kazakhstan's health industry.

This study offers insights to scholars and practitioners interested in understanding: 1) the factors influencing sector switching, and 2) the micro-level processes involved in the transition to a market economy. By examining the underlying motives for outflow professionals from the public to the private health care sector in Kazakhstan, I am able to glean practical insights on the country's health care industry as well as offer more general insights into the behavioral and economic factors faced by 'sector switchers,' (physicians) in transitional economies (Kazakhstan).

The data supporting this study comes from a unique data set I developed. In particular, I have survey data from approximately 1000 health care professionals (practicing physicians working in public and in private health care sector) in Kazakhstan. The data includes information about individual incentives for and perceptions of sector switching given perceived risks and uncertainties of an economic transition. Qualitative responses were collected from nine regions of Kazakhstan, coded and all data inputted into STATA for interpretation and analysis. Results from this study have important implications for Kazakhstan's national health and economic policies while also informing our understanding of public management and transitions to market economies.

My dissertation comprises of nine chapters including introduction and conclusion. The second chapter focuses on a conceptual framework of sector switching and characteristics of sector-switchers, proposes factors that might influence sector switching, as well as suggests traditional explanations for sector switching by discussing relevant theories. The third chapter provides an overview of risks and uncertainties common for transition economies. Chapter four suggests a set of hypotheses tested in the dissertation. The fifth chapter provides an overview of health care reforms in Kazakhstan that have taken place since the country's independence in 1991. Chapter six presents

an overview on survey methods used for this research. Chapter seven presents empirical tests on the findings of the formal model and an analysis for this research. Chapter eight provides a general discussion, whereas chapter nine identifies limitations for current research, and concludes with ideas for future research and policy recommendations for interested parties.

## CHAPTER II

### 2.0. FACTORS INFLUENCING SECTOR SWITCHING AND THEORETICAL EXPLANATIONS FOR THE PHENOMENON:

Before discussing sector switching phenomenon and its tendencies in countries with transition economies like Kazakhstan, it is important to discuss factors, which were identified in the literature as important indicators for the sector switching to occur. It is also essential to review theoretical explanations suggested to explain the phenomenon. This chapter is aimed at both examining traditional factors believed to affect sector switching and considering theoretical explanations to understand whether they are able to explain sector switching in transitional economies, like Kazakhstan.

The extent to which turnovers are voluntary or not depend largely on the labor market's situation itself (Booth *et al.* 1999; Burda and Wyplosz 1994; Burgess and Rees 1996; McLaughlin 1991).<sup>3</sup> At the same time, as suggested by George Akerlof, et.al. (1988), the total reward to working, which determines the overall level of satisfaction achieved by a worker in any given job, consists of two components: the wage, or pecuniary reward (economic factors), and a nonpecuniary reward (behavioral factors).<sup>4</sup> Nonpecuniary rewards, at the same time, can be divided into two parts – the reward to work “in general” and any additional reward to working for a specific firm.<sup>5</sup>

As suggested in job choice literature, pecuniary reasons (or economic incentives in our case)

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3 Sousa-Roza, A., Henneberger, F. (2004). Analyzing job mobility with job turnover intentions: an international comparative study, *Journal of economic issues*, 38(1), 119

4 Akerlof, G., Rose, A., & Yellen, J. (1988). Job switching and job satisfaction in the U.S. labor market. *Brookings paper on economic activity*, 1988(2), 501

5 Ibid

in general include earnings, job security, steady work, and good fringe benefits.<sup>6</sup> Nonpecuniary (or behavioral factors), on the other hand, include, for example, ability or capacity to do the work; feeling that work is important, satisfying, or challenging. Whether work is interesting or not; whether it allows an individual to be his own boss, or have too much pressure or responsibility – are among determinants of nonpecuniary factors as well. Congenial coworkers, working conditions and hours, supervision, company policy, good union and meeting interesting people are also those nonpecuniary factors that are considered when it comes to level of satisfaction achieved by a worker in any given job.<sup>7</sup> Moreover, an important nonpecuniary benefit of government employment in particular, as suggested by Smith, is its alleged stability compared to private employment.<sup>8</sup>

The job choice literature suggests that among most often expressed economic incentives or reasons for choosing a sector of employment and switching sectors when not satisfied with what is available are pay, job security, and fringe benefits (which are suggested to exceed those in the private sector)<sup>9</sup>. At the same time, among most often suggested factors that influence people when making decisions about their occupation sectors are behavioral motivations and job satisfaction. Absenteeism, turnover, job performance, the provision of effective public service, and organizational commitment are suggested by various studies (Boardman and Sundquist 2009; George and Jones 1996; Judge et al. 2001; Shore and Martin 1989; Tett and Meyer 1993) to be directly related to job satisfaction.<sup>10</sup>

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6 Smith, Sh. (1975). Pay differentials between federal government and private sector workers. *Industrial and labor relations review*, 29(2), 185

7 Ibid

8 Ibid

9 Ibid, p. 189

10 Boardman, C., Bozeman, B., & Ponomariov, B. (2010). Private sector imprinting: an examination of the impact of private sector job experience on public managers' work attitudes. Current trends in public personnel administration. *Public administration review*, 70(1), January/February, 51

Sousa-Poza and Henneberger, 2004, propose that one leaves the public sector for the private sector because of wage differentials and/or more challenging work.<sup>11</sup> A move from the private to public sector work, on the other hand, could be for reasons such as promotion (Bozeman and Ponomariov 2008), or perhaps for reasons, as further suggested by Bozeman and Ponomariov, that are related to intrinsic motivations and mission valence (e.g., public service motivation).<sup>12</sup>

According to Blank (1985), recent research investigating public and private wage-setting mechanisms indicates that significant sectoral wage differences do exist.<sup>13</sup> This phenomenon with wage difference between sectors is believed to be not of a surprise.<sup>14</sup> Blank states that public sector wages can be easily influenced by social, political, and non-labor budgetary issues.<sup>15</sup> At the same time, it is also believed by Smith (1975), that if the government pays more than a comparable wage, as determined by the market, workers of higher quality might be more attracted to jobs in the public sector.<sup>16</sup>

Even though private sector pays higher salaries, there are so many other factors that tend to influence people to choose working in the public sector. Among some factors are the general *working conditions* that regarded as more favorable in public employment. Among those favorable working conditions are *fringe benefits* that, according to Bellante and Link (1981), are demonstrably more favorable, on average, in all levels of government employment than they are in private employment.<sup>17</sup>

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11 Ibid, p. 53

12 Ibid

13 Blank, R. (1985). An analysis of workers' choice between employment in the public and private sectors. *Industrial and labor relations review*, 38(2) (January), 212

14 Ibid

15 Ibid

16 Smith, Sh. (1975). Pay differentials between federal government and private sector workers. *Industrial and labor relations review*, 29(2), 196

17 Bellante, D., Link, A. (1981). Are public sector workers more risk averse than private sector workers? *Industrial and labor relations review*, 34(3) (April), 408

Furthermore, Bellante and Link (1981), also suggest that *earnings* from government employment are usually thought to be more secure than earnings from private employment.<sup>18</sup> Bloch and Smith propose that the probability of becoming unemployed is considerably less for workers in the public sector than for those in the private sector, *ceteris paribus*.<sup>19</sup> Hall, in fact, has estimated that for males the probability of becoming unemployed in the public sector is less than half the probability in the private sector.<sup>20</sup>

At the same time, there are many aspects of the work in the public sector that keep people from choosing to work there. Among some of those factors proposed by Bozeman and Rainey, 2000 are *high levels of rules* and *red tape* particularly characteristic for public organizations.<sup>21</sup> The public sector has been demonstrated to be perceived to have more red tape (Pandey and Kingsley 2000; Pandey and Scott 2002) and to be more risk averse than the private sector.<sup>22</sup>

The extensive job choice literature, where sector switching is a subset of, suggests the above-mentioned economic and behavioral factors which influence sector switching, but does so in the context of stable economies. The objective of this study is, however, to consider how these economic and behavioral factors matter when it comes to sector switching in transitional economies. Both economic and behavioral factors should be viewed here from a different perspective where there is not much stability and, therefore, no guarantee, for instance, that a job is stable or insured against being lost at any time (situation which is frequent for private sector in transition economies).

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18 Ibid, p. 409

19 Ibid

20 Ibid

21 Bozeman, B., Rainey, H. (2000). Comparing public and private organizations: empirical research and the power of the a priori. *Journal of public administration research and theory*, 10(2), 453

22 Boardman, C., Bozeman, B., & Ponomarev, B. (2010). Private sector imprinting: an examination of the impact of private sector job experience on public managers' work attitudes. Current trends in public personnel administration. *Public administration review*, 70(1), January/February, 54

Characteristics of sectors in the case of transition economies are also rather different from those common for stable economies. If in stable economies, public sector employees' decision to work in the public sector is explained by relatively generous fringe benefits and job security that the sector offers, in situations of transition economies, most often additional monetary compensations in a form of informal payments (among some) motivate people to continue working in this sector.

The reason for relying on job choice literature for this study can be explained by the fact that it covers risks and uncertainties' component when explaining occupation decisions made by individuals, whereas sector switching literature does not. Sector switching is primarily focused on economic and behavioral factors influencing the switch and does so for countries with developed economies, where risk and uncertainties are not present or present, but not on a such substantial level.

King (1973) suggests considering the problem of occupation choice based on outcomes from the theory of risk-bearing.<sup>23</sup> Moreover, it was argued by Masson in this regard that in situation of capital markets being imperfect, individuals who are generally risks neutral may start acting as if they were risk-averse.<sup>24</sup> The question raised by Masson was the extent to which risk-averse behavior reflects capital market imperfections and thus may be eradicated rather painlessly, and the extent to which it reflects the nature of individual preferences and thus may be more deeply rooted.<sup>25</sup>

There is a set of theories suggested by this study that in conjunction explain overall dynamics for sector switching and behavior of sector switchers. The study uses interpretations from real business cycle theory, the theory of career mobility, and equity theory to explain the reality for sector switching in general. To explain risk perception, the study consults a social network contagion

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23 King, A. (1973). Occupation choice, risk aversion, and wealth. *Industrial and labor relations review*, 27(4), 586

24 Ibid, p. 595

25 Ibid, p. 596

theory. However, the suggested traditional explanations seem to be applied to developed economies and unable to explain what determines sector switching in an environment identified with risks and uncertainties as it is characteristic for Kazakhstan.

For the study, the interest in applying the *real business cycle theory* lies in its proposition that when making decisions about an employment, individuals choose among available sectors the one which provides them with higher total reward. The idea for this study is to see whether by choosing to work for the public sector or switching to the private or non-profit sectors health care professionals in Kazakhstan are able to distinguish which of the sectors provides them with most rewards and how do they define what *rewards* are for themselves.

For the study, the interest also rests in the *career mobility theory's* interpretation of quitting and to what extent it is planned and *if* planned in advance by health care professional in Kazakhstan when switching sectors of their occupation.

Moreover, the interest of this study is also to see whether in order to reduce perceived inequity health care personnel in Kazakhstan follow one of the suggested by Adams' *equity theory's* behavioral patterns, which are to alter job inputs and outcomes, to cognitively distort inputs or outcomes, to leave the field, to act on another person, or to change the object of their comparison. Both absenteeism and turnover, as forms of withdrawal behavior, in this regard represent a reduction in effort or leaving the field. The idea is, thus, to understand whether such forms of behavior are common in the case of the individuals studied.

In relation to a *social network contagion theory*, which suggests that it is the relational aspects of individuals that influence their perceptions and build "groups or communities of like-minded"

individuals.<sup>26</sup> The theory also proposes that there are risk perception networks that exist to share and even create similar risk perceptions.<sup>27</sup> The theory in a way helps to explain how perception of risk may vary between communities or within a single community.<sup>28</sup>

The idea of the social contagion is that individuals adopt the attitudes or behaviors of others in the social network with whom they communicate.<sup>29</sup> Social contagion theory suggests that behaviors and perceptions initiated by one member of the network will influence others in the network.<sup>30</sup> The interest for this study is, therefore, to understand whether such forms of behavior and perception are common in the case of the individuals studied.

The set of theories described in this study offer important insights into the overall dynamics for sector switching and behavior of sector switchers. The study, reconsiders these theories in the light of sector switching in transitional economies. Moreover, the study suggests that there is a need to interpret the health care personnel's situation and their decisions to still switch sectors of their employment considering realities of Kazakhstan, with high level of risks and uncertainties common for the country's environment.

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26 Scherer, C., Cho, H. (2003). A social network contagion theory of risk perception. *Risk analysis*, 23(2), 261

27 Ibid

28 Ibid

29 Ibid

30 Ibid

## **CHAPTER III**

### **3.0. RISKS AND UNCERTAINTIES IN TRANSITION ECONOMIES:**

As seen from the above discussion on factors influencing sector switching, many economic and behavioral factors influence individuals when making decisions about their employment sector. In relation to theoretical explanations for the phenomenon, many reasoning were suggested to rationalize behavior of sector switchers and intentions for the switch to occur. However, all of these explanations have only been applied to market economies with stable environments. I am, however, interested in understanding how these factors and theoretical explanations ‘play out’ in less stable environments, which pose different types of risks.

I now turn to discussing risks and uncertainties that are characteristic to an environment in transition economies. The following discussion is focused on transition economies and possible risks and uncertainties associated with switching sectors in those distinctive circumstances. This is being done to demonstrate that explanations that interpret sector switching phenomenon in market economies are not applicable to transition economies and require different set of justification.

#### **3.1. Risk, uncertainty and job choice**

The claim of this study is that transition-specific sources substantially increase fundamental uncertainty of the environment in transition economies. To understand the specifics of the situation with uncertainty in transition economies it is important to discuss risk and whether it can be at all perceived and how it is being done by individuals considering different factors influencing outcomes

(the likelihood of changing occupation sectors), which this section is aimed at discussing.

According to Sage and White (1980), conditions of uncertainty occur when there is a lack of information about the likelihood of occurrence of outcome events in risky situations.<sup>31</sup> Moreover, it turns out that everyone is constantly subjected to many risks, both on individual and societal levels.<sup>32</sup> In relation to risks' evaluation, they are suggested to be generally qualitatively analyzed rather than quantitatively.<sup>33</sup> At the same time, among some of the factors that are believed to influence risk perception include “the degree of personal control over the risk, the potential of episodic events, and the probability of severe injury if a potentially hazardous event occurs.”<sup>34</sup> These factors, as suggested by Sage and White (1980), tend to contribute to personal value systems of individuals and, therefore, influence the choice-making process.<sup>35</sup>

#### *The nature of risk and the types of societal risks:*

Before focusing on factors that affect perceptions of risk among individuals, it is important to talk first about the nature of risk and the types of societal risk taking. Sage and White (1980), define *risk* as “the probability per unit time of the occurrence of a unit cost burden.”<sup>36</sup> In other words, risk represents “the statistical likelihood of a randomly exposed individual being adversely affected by some hazardous event.”<sup>37</sup> As a result, risk consists of “a measure of the probability and severity of adverse impacts”<sup>38</sup> or harm.<sup>39</sup> In other words, risk to an individual is understood as the

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31 Sage, A., White, E. (1980). Methodologies for risk and hazard assessment: a survey and status report. *IEEE transactions on systems, man, and cybernetics*, 10(8), August, 425

32 Ibid, p. 426

33 Ibid

34 Ibid

35 Ibid

36 Ibid

37 Ibid

38 Ibid

possibility that he or she will be seriously injured.<sup>40</sup> This may result from either the hazards of normal living or possible accidents.<sup>41</sup> Safety, on the other hand, represents the level of risk, which is considered acceptable.<sup>42</sup>

As a result, risk is an effect related to a specific activity or action and an outcome from the activity.<sup>43</sup> Risk is a probabilistic term.<sup>44</sup> It is often referred to the statistical expected value of loss (for example, the probability of an average individual's chance of death, per year, from transportation accidents), or the total risk (sum of individual risks) in a population group or to the total risk (sum of individual risks) in a population group.<sup>45</sup> Therefore, risk assessment is a process in which risk considerations are an input to decision-making process.<sup>46</sup>

Sjoberg (2002) also proposes that risk is composed of probability and severity of harm.<sup>47</sup> He also believes that risk perception has can be explained by three classes of concepts: attitude (to the agency or activity creating the hazard); general risk sensitivity (a personality concept); and the reaction to specific components of the hazard at hand (such as ionizing radiation).<sup>48</sup> Sjoberg claims that some 60 per cent of the variance in risk perception can be explained if using this approach (Sjoberg, 1996a).<sup>49</sup>

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39 Sjoberg, L. (2002). Policy implications of risk perception research: a case of the Emperor's new clothes? *Risk management: an international journal*, 4(2), 12

40 Sage, A., White, E. (1980). Methodologies for risk and hazard assessment: a survey and status report. *IEEE transactions on systems, man, and cybernetics*, 10(8), August, 426

41 Ibid

42 Ibid

43 Ibid, p. 428

44 Ibid

45 Ibid

46 Ibid

47 Sjoberg, L. (2002). Policy implications of risk perception research: a case of the Emperor's new clothes? *Risk management: an international journal*, 4(2), 12

48 Ibid, p. 13

49 Ibid

In the decision theory literature a distinction is often made between "risk" and "uncertainty."<sup>50</sup> Risk involves known (objectively or subjectively) or assumed probabilities.<sup>51</sup> Uncertainty, at the same time, arises when outcomes result from various unknown probabilities.<sup>52</sup> In this regard, lack of knowledge and differences of opinion concerning, for example, long-term implications of various forms of nuclear waste disposal or the greenhouse effect, are among major sources of uncertainty.<sup>53</sup>

The risk assessment literature often uses risk and uncertainty interchangeably.<sup>54</sup> At the same time, there appears to be no commonly accepted definition of "risk" in the area of risk assessment.<sup>55</sup> To elaborate further on the fact that there is a lack of characteristics for describing risk, Slovic (1999) proposes that human beings have invented the concept of *risk* to help them understand and cope with the dangers and uncertainties of life.<sup>56</sup> There are some indications, moreover, that factors such as gender, race, political worldviews, and affiliation are strongly correlated with risk judgments.<sup>57</sup> At the same time, there is no universal set of characteristics to describe risk.<sup>58</sup>

There are, however, several types of risks. *Voluntary risks* which individuals choose to assume, such as those due to personal smoking, and *involuntary risks* which individuals do not choose to assume, such as those due to a nearby power plant or being forced to inhale the smoke of others.<sup>59</sup> Most of voluntary risks are accepted by the public because of the perception that benefits outweigh costs (a component of cost here is risk).<sup>60</sup> Starr (1969) in this regard clarifies that when it

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50 Ibid

51 Ibid

52 Ibid

53 Ibid

54 Ibid

55 Slovic, P., Fischhoff, B., Lichtenstein, S. (1982). Why study risk perception? *Risk analysis*, 2(2), 87

56 Slovic, P. (1999). Trust, emotion, sex, politics, and science: surveying the risk-assessment battlefield. *Risk analysis*, 19(4), 690

57 Ibid, p. 692

58 Ibid

59 Sage, A., White, E. (1980). Methodologies for risk and hazard assessment: a survey and status report. *IEEE transactions on systems, man, and cybernetics*, 10(8), August, 426

60 Ibid

comes to risk perception, people's tolerance for risk relates to their perception of benefit, and further suggests – “the greater the perceived benefit, the greater the tolerance for risk.”<sup>61</sup>

It is useful to recognize the existence of four different *types of societal risks*:

- 1) *real risk* to an individual - determined by future circumstances when they fully develop,
- 2) *statistical risk* - determined by currently available data,
- 3) *predicted risk* - predicted analytically, and
- 4) *perceived risk* - intuitively seen by individuals.<sup>62</sup>

There are also a number of *factors*, which *influence risk perceptions* for the various types of risks:

- 1) *new risks* - for which there may or may not be natural defense mechanisms;
- 2) *newly identified existing risks* - previously unknown, or suddenly emerged due to a sudden intervention, and
- 3) *changes in the way existing risks are perceived*.<sup>63</sup>

What is essential to understand is a fact that there are very few situations, which create no risk to individuals.<sup>64</sup> There is, however, also another view suggested by Sjöberg (2000) proposing that risk cannot be perceived and there is no risk perception in general. In other words, there is nothing “out there” which can be called “risk” and which can be sensed.<sup>65</sup> It is believed that risk is about a future event, which can be imagined or construed, not sensed.<sup>66</sup> Furthermore, risk also

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61 Slovic, P., Fischhoff, B., Lichtenstein, S. (1982). Why study risk perception? *Risk analysis*, 2(2), 87

62 Sage, A., White, E. (1980). Methodologies for risk and hazard assessment: a survey and status report. *IEE transactions on systems, man, and cybernetics*, 10(8), August, 427

63 Ibid, p. 428

64 Ibid, p. 426

65 Sjöberg, L. (2000). The methodology of risk perception research. *Quality & quantity*, 34(4), 408

66 Ibid

involves the likelihood or probability of harm, as well as the size and quality of the harmful outcomes, should they occur (Drottz-Sjöberg, 1991).<sup>67</sup> Hence, risk is suggested by Sjöberg (2000) to be quite different from perception in the technical sense of the word.<sup>68</sup>

Brewer, et al. (2004) further suggest that there are three distinct hypotheses – the accuracy hypothesis, the behavior motivation hypothesis, and the risk reappraisal hypothesis - that address the relation between personal risk perception and risk behavior.<sup>69</sup> The *accuracy hypothesis* proposes that, holding other risk factors constant, people who engage in risky behaviors tend to have higher actual risk thus leading to having higher perceived risk.<sup>70</sup> The hypothesis asserts that perceptions of risk at any given time properly reflect one's risk behaviors.<sup>71</sup>

The *behavior motivation hypothesis*, at the same time, describes the effects of perceptions of risk on *changes* in behavior, and states that elevated risk today tends to lead to increased preventive behavior (i.e., to a change in behavior) in the future.<sup>72</sup> This is a hypothesis about cause (perceived personal risk) and effect (change in behavior).<sup>73</sup>

At last, *the risk reappraisal hypothesis* suggests that changes in behavior lead to changes in risk perceptions.<sup>74</sup> It is proposed that increasing preventive behavior tend to lead to decreased perceived risk.<sup>75</sup> Similar is suggested by Weber et al. in relations to changes in risk perceptions by saying that

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67 Ibid

68 Ibid

69 Brewer, N., Weinstein, N., Cuite, C., Herrington, J. (2004). Risk perceptions and their relation to risk behavior. *The society of behavioral medicine*, 27(2), 126

70 Ibid

71 Ibid

72 Ibid

73 Ibid

74 Ibid, p. 127

75 Ibid

differences in risky choice should not be interpreted as the result of changes in people's preference for risk, but may also, at least partially, be the result of changes in their perception of the risks.<sup>76</sup>

The result of Brewer et al. study further suggests that higher risk judgments encouraged people to engage in protective behavior (i.e., being vaccinated).<sup>77</sup> Having engaged in the protective behavior, in turn, seem to lead people to reduce their risk judgments.<sup>78</sup>

#### *Factors affecting perceptions of risk:*

Perhaps the single most important factor in risk perception, which as earlier suggested as intuitively seen by individuals, is *the degree of risk controllability*,<sup>79</sup> or as also earlier mentioned the degree of personal control. Individuals feel safer if they can have some control over the amount of risk resulting from an activity.<sup>80</sup> Moreover, risk perceptions will depend upon already mentioned types of risk, the scope of the risk (local to global and single individual to entire society), and the effect of the risk (completely reversible to totally irreversible).<sup>81</sup>

Sjoberg (2000) suggests that there are several factors that can explain the perceived risk, with a primary candidate being the *real risk* itself and ways in which individuals have experienced it – directly or indirectly.<sup>82</sup> One of the factors of great importance in risk perception is the *risk target* or the earlier suggested scope of the risk.<sup>83</sup> The idea here is that people make different risk estimates

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76 Weber, E., Milliman, R. (1997). Perceived risk attitudes: relating risk perception to risky choice. *Management Science*, 43(2), 124

77 Brewer, N., Weinstein, N., Cuite, C., Herrington, J. (2004). Risk perceptions and their relation to risk behavior. *The society of behavioral medicine*, 27(2), 128

78 Ibid

79 Sage, A., White, E. (1980). Methodologies for risk and hazard assessment: a survey and status report. *IEEE transactions on systems, man, and cybernetics*, 10(8), August, 428

80 Ibid

81 Ibid

82 Sjoberg, L. (2000). Factors in risk perception. *Risk analysis*, 20(1), 1

83 Ibid, p. 2

when they rate the risk to themselves, to their family, or to people in general.<sup>84</sup> At the same time, one other factor that is important in risk perception is the fact that people most often are in *risk denial*.<sup>85</sup> Risk denial is related to an unrealistic optimism and is a very important phenomenon of risk perception.<sup>86</sup>

As suggested earlier, to model risk perception, Sjöberg (2000) uses three concepts with the first set being the concept of *attitude*.<sup>87</sup> He proposes that risk perception is constructed based on thoughts and beliefs about risks.<sup>88</sup> There is, however, another argument for the opposite direction of influence, i.e., for attitude to be driving beliefs.<sup>89</sup> In other words, risk perception is suggested to be caused by attitude, e.g., to nuclear power.<sup>90</sup>

In his comparative analysis of risk perception research, Boholm (1998) believes that risk perception is influenced by qualitative understandings – *meanings* – associated with hazards.<sup>91</sup> At the same time, Renn (1998) proposes that the term 'risk' is often associated with the possibility that *an undesirable state of reality* (adverse effects) may occur as a result of natural events or human activities.<sup>92</sup> It may be difficult to determine, however, what characteristics are necessary to label an outcome as 'adverse' rather than 'desirable' or 'tolerable'.<sup>93</sup> Nevertheless, one of the definitions of risk in this regard is thus, that *risk* is the “*possibility that human actions or events lead to consequences that have an impact on what humans value.*”<sup>94</sup>

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84 Ibid

85 Ibid

86 Ibid

87 Ibid, p. 8

88 Sjöberg, L. (2000). The methodology of risk perception research. *Quality & quantity*, 34(4), 408

89 Sjöberg, L. (2000). Factors in risk perception. *Risk analysis*, 20(1), 8

90 Ibid

91 Boholm, A. (1998). Comparative studies of risk perception: a review of twenty years of research. *Journal of risk research*, 1(2), 139

92 Renn, O. (1998). The role of risk perception for risk management. *Reliability engineering & system safety*, 59(1), 51

93 Ibid

94 Ibid

This definition implies that humans are making causal connections between actions (or events).<sup>95</sup> Actions or events, in this regard, can be altered accordingly either by modifying the initiating activity or event or by mitigating the impacts.<sup>96</sup> The definition of risk here, hence, contains three elements: outcomes that have an impact on what humans value, possibility of occurrence of uncertainty, and a combination of both elements (see Renn, p. 55; Vlek, p. 10).<sup>97</sup> Since risk is a potential of 'real' consequences, it is also a social construction and a representation of reality.<sup>98</sup>

Moreover, the perception of risk, as suggested earlier, is believed to often be part of an attitude that a person holds about the cause of the risk, which could be technology, human activity or natural event.<sup>99</sup> Therefore, attitudes encompass a series of beliefs about the nature, consequences, and justifiability of risk causes.<sup>100</sup>

Risk perception is also to a large extent a question of *ideology*. Experts tend to give considerably lower risk estimates than the public whenever rating risks within their own expertise and responsibility.<sup>101</sup> People who, for some reason, are strongly in favor of nuclear power, for instance, tend to see it as risk free, and vice versa.<sup>102</sup> In other words, people tend to positively view concepts or objects that they like and negatively those that they dislike. Beliefs and values here are often strongly correlated and psychologically interdependent.<sup>103</sup> Experts in the nuclear waste field, for example, see its risks as very much smaller than the public does. Moreover, they are also more

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95 Ibid

96 Ibid

97 Ibid

98 Ibid, p. 52

99 Ibid, p. 55

100 Ibid

101 Sjöberg, L. (2000). Factors in risk perception. *Risk analysis*, 20(1), 9

102 Ibid

103 Ibid

positive to nuclear power, which explains the difference between them and the general population in their risk perceptions.<sup>104</sup>

Another concept that should be considered here is risk *sensitivity*.<sup>105</sup> People could truly differ in this regard. Some people tend to be very upset and worried about virtually all hazards, whereas others are quite indifferent and relaxed.<sup>106</sup> People could also have different scale (high vs low) when rating hazards. Some tend to use the high end of the scale, whereas others tend to use the low end of the scale, no matter what hazard they rate.<sup>107</sup>

The concept of *specific fear*, or the effect of the risk, also should be considered here. It refers to any hazard that elicits thoughts about specific fear-arousing elements.<sup>108</sup> One of the examples for the concept could be the perceived risk of flying which brings out notions about falling from a great height, or burning, or being killed by a violent explosion.<sup>109</sup> Another example could be nuclear fear that is associated with the specific fear of radiation.<sup>110</sup>

Moreover, depending on *individual's belonging to different views* – fatalism, hierarchy, individualism, egalitarianism, and technological enthusiasm – his risk perceptions tend to be one or another.<sup>111</sup> Fatalists, for example, tend to think that everything that happens in life is preordained.<sup>112</sup> Hierarchists, at the same time, believe that hierarchy organizes a society where commands flow down from authorities and obedience flows up the hierarchy.<sup>113</sup> Egalitarians prefer a society where

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104 Ibid

105 Ibid

106 Ibid, p. 8

107 Ibid

108 Ibid

109 Ibid

110 Ibid

111 Slovic, P. (1999). Trust, emotion, sex, politics, and science: surveying the risk-assessment battlefield. *Risk analysis*, 19(4), 694

112 Ibid

113 Ibid

power and wealth are evenly distributed.<sup>114</sup> Individualists, at the same time, are not in favor of being constrained by government or any other kind of forces.<sup>115</sup>

According to the cultural theory, and in relation to risks, persons with hierarchic orientations can accept risks as long as decisions about those risks are justified by governmental authorities or experts.<sup>116</sup> They fear risks that threaten the social order, however. Egalitarians, on the other hand, are assumed to oppose risks that will cause dangers on many people or future generations.<sup>117</sup> They distrust risks that are forced on them by experts or governmental authorities.<sup>118</sup> Fatalists try not to know and not to worry about things (risks) that they believe they can do nothing about.<sup>119</sup> Individualists, at the same time, perceive risk as an opportunity.<sup>120</sup> New technologies, for example, are viewed here more as possibilities and less as dangers (Thompson *et al.*, 1990, pp. 62f). However, they fear risks, which could limit their freedom.<sup>121</sup>

Sage and White (1980) suggest that people may be also greatly influenced by other factors, such as the way in which risk and hazard issues are presented to them.<sup>122</sup> Keown postulates that perception of risk is likely to vary depending on a wide array of factors. Among which are ways in which the media presents the information, what people discuss, what cultural norms are predominant in a society and what are the technical and legal opportunities that are available to control and regulate risk.<sup>123</sup>

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114 Ibid

115 Ibid

116 Rippl, S. (2002). Cultural theory and risk perception: a proposal for a better measurement. *Journal o risk research*, 5(2), 150

117 Ibid

118 Ibid

119 Ibid

120 Ibid

121 Ibid

122 Sage, A., White, E. (1980). Methodologies for risk and hazard assessment: a survey and status report. IEE transactions on systems, man, and cybernetics, 10(8), August, 440

123 Boholm, A. (1998). Comparative studies of risk perception: a review of twenty years of research. *Journal of risk research* 1 (2), p. 142

To a large extent, people receive information with respect to many everyday hazards from a direct personal experience.<sup>124</sup> But other hazards are encountered only indirectly. They are experienced through statements made by experts and risk management institutions, news media, public agencies, political pressure groups, or informal networks of friends and family (the earlier discussed *a social network contagion theory*).<sup>125</sup> Thus, information about hazards obtained through various means may be expected to be qualitatively processed, evaluated and judged (Kasperson *et al.*, 1988; Renn *et al.*, 1992).<sup>126</sup>

Evaluations of risks in the media may be expected to influence public attitudes and responses as to whether risks are accepted, rejected, tolerated or eliminated.<sup>127</sup> Therefore, the media not only builds complex messages about risks and hazards, but it also identifies how risks should be viewed (while some risks might be amplified others might be attenuated) by the way it presents them to people.<sup>128</sup>

In addition, we should also remember that news are not digested in isolation by individuals.<sup>129</sup> What people have read in the papers or seen on television tends to be discussed at work, with the family, and among friends and neighbors, and in the community in general.<sup>130</sup> What is interesting here is how these informal exchanges influence the impact of media coverage on risks (the earlier discussed *a social network contagion theory*).<sup>131</sup>

Considering all of the factors that are suggested above to explain how individuals perceive risk, it could be suggested that “a stimulus-response kind of thinking of an individual in relation to a

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124 Ibid, p. 145

125 Ibid

126 Ibid, p. 146

127 Ibid

128 Ibid

129 Ibid

130 Ibid

131 Ibid

specific situation is pretty much behind it all.”<sup>132</sup> As Arabie & Maschmeyer (1988) put it, risk is “a unidimensional psychological response varying systematically as a function of factors in an experimental design.”<sup>133</sup> In other words, “risk” means different things to different people.<sup>134</sup> Similar is proposed by Purvis-Roberts et al. by saying that risk perceptions can vary when comparing different groups of people. Public in general has a multidimensional view of risk and benefits that differs from the frameworks used by technical experts.<sup>135</sup> Depending on their backgrounds, different people rationalize information differently, which can explain differences in risk perception.<sup>136</sup>

As suggested earlier there is a difference between how laypeople and experts estimate risks. When experts judge risk, their responses tend to be highly correlated with technical estimates of annual fatalities.<sup>137</sup> Laypeople can assess annual fatalities if they are asked to (and produce estimates not unlike the technical estimates).<sup>138</sup> However, their judgments of risk are sensitive to other factors as well (e.g., catastrophic potential, threat to future generations) and, as a result, are not closely related to their own (or experts’) estimates of annual fatalities.<sup>139</sup>

*Additional factors to be considered in relation to risk perception:*

Boholm (1998) suggests that individuals tend to overestimate risks. In a state of anomie, due to a vulnerable and insecure social position, which might be influenced by divorce, poverty, illness,

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132 Sjöberg, L. (2000). Factors in risk perception. *Risk analysis*, 20(1), 9

133 Arabie, Ph., Maschmeyer, C. (1988). Some current models for the perception and judgment of risk. *Organizational behavior and human decision processes*, 41(3) (June), 300

134 Slovic, P., Fischhoff, B., Lichtenstein, S. (1982). Why study risk perception? *Risk analysis*, Vol. 2, No. 2, p. 85

135 Purvis-Roberts, K., Werner C., Frank, I. (2007). Perceived risks from radiation and nuclear testing near Semipalatinsk, Kazakhstan: a comparison between physicians, scientists, and the public. *Risk analysis*, Vol. 27, No. 2, 2007, p. 292

136 Slovic, P., Fischhoff, B., Lichtenstein, S. (1982). Why study risk perception? *Risk analysis*, 2(2), 85

137 Ibid

138 Ibid

139 Ibid

or unemployment, individuals can experience a sense of hopelessness, which, in turn, might also lead to risks' overestimation.<sup>140</sup>

*Poverty* might be considered to be a determinant with respect to the risks perception. If one must struggle for survival, and be subjected to constant threats on a daily basis, perhaps this might not be of a surprise to see an increase in one's general perception of risks (Nyland, 1994).<sup>141</sup> When comparing risks perception between social groups, it does in general appear to be increased for individuals experiencing poor economy, bad housing, and instability in a neighborhood.<sup>142</sup>

Individuals' occupation seems to also partly determine perception of risks. (Goszczynska *et al.*, 1991; Nyland 1993; Sjöberg *et al.*, 1996).<sup>143</sup> In two studies, one comparing Brazil and Sweden (Nyland, 1993), and the other comparing Romania and Bulgaria (Sjöberg *et al.*, 1996), samples of nurses in these countries resulted in high ratings of risks perceptions.<sup>144</sup> Low ratings regarding the perception of risks were obtained, on the other hand, from engineers and manual workers.<sup>145</sup>

Taking risks also differs by *gender*.<sup>146</sup> Overall, men are believed to take more risks.<sup>147</sup> Weber *et al.* findings in relation to gender differences when taking risk suggest that men are significantly more likely to engage in most risky behaviors than were women (the exception is of social risks, where women are not afraid of taking them).<sup>148</sup> Barsky *et. al* propose in this regard that males are somewhat more risk tolerant than females.<sup>149</sup>

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140 Boholm, A. (1998). Comparative studies of risk perception: a review of twenty years of research. *Journal of risk research*, 1(2), 149

141 Ibid

142 Ibid

143 Ibid, p. 150

144 Ibid

145 Ibid

146 Ibid

147 Ibid

148 Ibid

149 Barsky, R., Kimball, M., Juster, Th., & Shapiro, M. (1997). Preference parameters and behavioral heterogeneity: an experimental approach in the health and retirement study. *Quarterly journal of economics*, 112(2) (May), 549

Gustafson (1998) proposes that women and men differ in their perceptions of risk.<sup>150</sup> In relation to which risks men and women are concerned about the most, it is generally suggested that women are more oriented toward home and family, mainly perceiving risks as threats to their family and to their home (e.g., fire).<sup>151</sup> Accident risks, health risks, and risk of death are often mentioned as of great concern for them.<sup>152</sup> Men's concerns are to a higher degree related to their working life, e.g., risks of unemployment, and economic problems.<sup>153</sup> At the same time, men do not show the same concern about accident risks and other physical risks as women do thus suggesting that men and women perceive, or at least give priority to, different risks.<sup>154</sup>

Moreover, Fischer et al. found gender differences in the perception of risks associated with health, safety, and environmental issues. In this regard, women frequently mentioned environmental risks, whereas men stated health and safety risks as of great concern to them.<sup>155</sup> At the same time, Larsson and Montén when investigating work-related health and accident risks revealed that men were more concerned about industrial accidents, whereas women worried more about infectious diseases.<sup>156</sup> In addition, Davidson's and Freudenburg's study, which examined social roles, proposes that overall perceived role of women as nurturers and care providers suggests their greater general concern about the well-being of others.<sup>157</sup>

There is also another view, suggested by Flynn et al. that gender (and ethnic) differences in risk perception may to a substantial degree depend on sociopolitical factors such as power, status, and trust.<sup>158</sup> Their argument implies that men seem to worry less in general because risks are often

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150 Gustafson, P. (1998). Gender differences in risk perception: theoretical and methodological perspectives. *Risk analysis*, 18(6), 806

151 Ibid

152 Ibid

153 Ibid

154 Ibid

155 Ibid

156 Ibid, p. 807

157 Ibid, p. 808

158 Ibid

created and handled by men. At the same time, it is also believed that men perceive the risks as more acceptable than women because men seem to benefit more from the risk-taking behavior. Gender differences in the perception of risk thus seem to reflect not only the gender differences in social roles between males and females, but also suggest unequal power distribution between the two.<sup>159</sup>

Overall, it should be concluded that women and men are exposed to different risks, perceive risks differently, and handle risks in different ways.<sup>160</sup> As a lot of risk research has suggested, risk perception does not merely reflect on the actual risk exposure, but is also influenced by individual experiences and collective constructions of risk. Likewise, the way people handle risks is determined by many other factors than only their risk perceptions. Women's and men's exposure to risks, their perception of risk, and handling of risks may thus be regarded as three separate analytical levels, none of them reducible to any other level.<sup>161</sup> In other words, women and men may perceive the same risks differently, they may perceive diverse risks in a different way, and they may attach different meanings to what appear to be "the same" risks.<sup>162</sup>

*Age* differences also matter when taking risk. According to Barsky et. al. there are substantial differences by age when tolerating risks.<sup>163</sup> The youngest and the oldest cohorts are believed to be most risk tolerant, with cohorts in the middle being less risk tolerant.<sup>164</sup> Barsky et. al. further suggest that there are also important differences in risk tolerance depending on the *race* and *religion* of an individual.<sup>165</sup> Whites are believed to be the least risk tolerant. Blacks and Native Americans, at the same time, are somewhat more risk tolerant, whereas Asians and Hispanics are the most risk

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159 Ibid

160 Ibid

161 Ibid, p. 810

162 Ibid

163 Barsky, R., Kimball, M., Juster, Th., & Shapiro, M. (1997). Preference parameters and behavioral heterogeneity: an experimental approach in the health and retirement study. *Quarterly journal of economics*, 112(2) (May), 549

164 Ibid, p. 550

165 Ibid

tolerant.<sup>166</sup> Risk tolerance also varies significantly, as mentioned earlier, by *religion*. Protestants are proposed to be the least risk tolerant, whereas Jews are the most.<sup>167</sup> Catholics, on the other hand, are about halfway between Protestants and Jews in their tolerance to risks.<sup>168</sup>

*Growing up* in a risk taking environment is proposed by Hartog et al. to be unrelated to risk aversion.<sup>169</sup> At the same time, risk aversion is significantly lower for the *self-employed individuals*.<sup>170</sup> *Schooling* level significantly reduces risk aversion, in particular for university education relative to lower levels.<sup>171</sup> Single parents, *single individuals*, and those who live together without formal marriage status are less risk averse than married couples. *Marital status* and parental background, however, have no statistically significant effect on risk aversion, except for mother's education.<sup>172</sup> Highly educated mothers seemed to have reduced risk aversion.<sup>173</sup> It is possible that they transmit their own lower risk aversion to their children.<sup>174</sup> Moreover, Hartog et al. suggest that *civil servants* are more risk averse in comparison to their counterparts in the private sector.<sup>175</sup>

In their discussion on theories of risk perception: who fears what and why?, Wildavsky and Dake (1990), ask to what degree are different people equally worried about the same dangers, or to what extent do some perceive certain risks as great that others think of as small?<sup>176</sup> And how do concerns across different kinds of risk - war, social deviance, economic troubles as well as technology - vary for given individuals?<sup>177</sup> Authors claim that only by comparisons across types of danger can we learn whether individuals have a general tendency to be risk averse or risk taking, or

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166 Ibid

167 Ibid

168 Ibid

169 Hartog, J., Ferrer-i-Carbonell, A., Jonker, N. (2002). Linking measured risk aversion to individual characteristics. KYKLOS, 55(1), February, 12

170 Ibid

171 Ibid, p. 13

172 Ibid, p. 14

173 Ibid

174 Ibid

175 Ibid

176 Wildavsky, A., Dake, K. (1990). Theories of risk perception: who fears what and why? *Daedalus*, 119(4), 42

177 Ibid

whether their perceptions of danger depend upon the meaning they give to objects of potential concern.<sup>178</sup> The test that should be put to each theory of risk perception, as proposed by Wildavsky and Dake, is thus its ability to predict and explain what kinds of people will perceive which potential hazards to be how dangerous.<sup>179</sup>

*Occupational choice and risk aversion:*

A rather interesting observation made by Hartog et al. related to the topic of this research is that “*sector choice is not affected by risk attitude.*”<sup>180</sup> Contrary, Bellante and Link (1981), suggest in their study, which is one of the few to directly address issues of sectoral choice, that “measured risk aversion among workers is significantly correlated with sectoral choice.”<sup>181</sup> Economic reasoning proposes that, other things equal, “individuals with a high degree of aversion to risk will be more likely than others to seek employment in the public sector.”<sup>182</sup> It turned out that innately risk-averse individuals have a greater probability of choosing employment in public sector than in the private one.<sup>183</sup> In other words, labor-force participants are seem to be able to evaluate presence of risks in relation to occupation sectors, and to recognize that less risk is attached to public sector employment, as well as to act in accordance to that information.<sup>184</sup>

It is assumed that when an individual chooses a sector of his employment, he is in effect choosing the one based on a specific set of job related characteristics.<sup>185</sup> Among some of these many

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178 Ibid

179 Ibid

180 Hartog, J., Ferrer-i-Carbonell, A., Jonker, N. (2002). Linking measured risk aversion to individual characteristics. *KYKLOS*, 55(1), February, 18

181 Bellante, D., Link, A. (1981). Are public sector workers more risk averse than private sector workers? *Industrial and labor relations review*, 34(3) (April), 408

182 Ibid

183 Ibid, p. 411

184 Ibid

185 Ibid, p. 409

characteristics is the degree of *financial risk* associated with the sector of employment, one aspect of which is the probability of becoming unemployed.<sup>186</sup> Bellante and Link (1981) hypothesize that in the regard to financial risk innately risk-averse individuals will most likely choose the less risky sector, that is, the public sector.<sup>187</sup> Authors' results do indicate that, as hypothesized, innately risk-averse individuals have a greater probability of choosing public rather than private sector of employment.<sup>188</sup> One other result proposes that in cases when individuals place more value on the job security, the greater there is a tendency for them to seek employment in the public sector.<sup>189</sup>

### 3.2. Realities of transition economies:

It is important to talk about underlying sources of uncertainties that are common for transition economies like Kazakhstan. These sources of uncertainties are not only identifying realities of transition economies, but are also forming their further development.

Countries of the former Soviet Union, including Kazakhstan, have undergone a series of transformation processes during the years of the early 1990s until the early 2000s. It could be argued that further transition is still underway. The transformation process has included three types of changes, each leading to profound social consequences, which in turn, affected development of the health care sector (as well as other sectors of transition economies).

According to Simai (2006), the *first stage* involved the disintegration of the Soviet Union.<sup>190</sup> For newly formed states it suggested obtaining experience with new economic boundaries, institutions and government bureaucracies, which also implied new currency, tax, price and market

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186 Ibid

187 Ibid

188 Ibid, p. 411

189 Ibid

190 Simai, M. (2006). Poverty and inequality in Eastern Europe and the CIS transition economies. *UN/DESA working paper*, 17, 3

systems.<sup>191</sup> The *second stage* has led to the collapse of the socialist regime, and resulted in creation of new institutions with characteristics of market economy, such as unsubsidized market prices and employment insecurity.<sup>192</sup> The *third stage* of the transformation has caused changes in social structure, where the old structure has been replaced by the one similar to middle or low income capitalist societies.<sup>193</sup> Overall, it could be proposed that these transformational changes were occurring with a different level of success.

To elaborate more on one of the examples of the experienced change that is related to this study - employment opportunities – it could be suggested that before the transition, workers, in socialist economies, were used to having regular, full time wage and salary employment. Jobs were secure (permanent employment contracts were the norm; dismissals were possible only for major misdemeanor, and thus very rare) and employment was providing a range of fringe benefits.<sup>194</sup> This has, however, changed dramatically during the course of transition and resulted in overall employment insecurity.

*Job security* was largely lost which could be explained by high job separation rates prevailing in most transition economies.<sup>195</sup> In addition, employers have increasingly turned to fixed-term or temporary employment contracts to facilitate workforce adjustment.<sup>196</sup> *Benefits* were cut-off as subsidies were removed and enterprises had to become competitive in order to stay in business.<sup>197</sup> The proportion of regular secure jobs has gone down, while that of casual, unstable jobs has gone up.<sup>198</sup> The changing nature of jobs has been associated with the growth of *the informal sector*, which by

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<sup>191</sup> Ibid

<sup>192</sup> Ibid

<sup>193</sup> Ibid

<sup>194</sup> Rutkowski, J. (2006). Labor market developments during economic transition. *World Bank policy research working paper*, 3894, 11

<sup>195</sup> Ibid

<sup>196</sup> Ibid

<sup>197</sup> Ibid

<sup>198</sup> Ibid

its nature provides less protected jobs with fewer benefits.<sup>199</sup>

One part of the transition process has been a shift of resources, including labor, from the public to the private sector.<sup>200</sup> As suggested by Rutkowski (2006), changes in employment structure have far reaching effect on labor market.<sup>201</sup> Reallocation of labor across industries and sectors leads to reallocation across occupations and regions and is thus likely to give rise to *structural mismatches*. Jobs that are created in expanding industries usually require different skills and are located in different regions than jobs that are destroyed in declining industries.<sup>202</sup> As a result, such reallocation of human capital across sectors is suggested to impose *transition costs* (in terms of time and effort, as well as new skills required) on workers who move from old to new jobs.<sup>203</sup>

One of the main points related to this particular discussion on transition economies and risks associated with sector switching is the fact that after independence in 1991, countries' priorities have shifted to political and economic reforms<sup>204</sup> where the human consequences of the transition process were generally neglected.<sup>205</sup> The changing patterns in the labor markets included a great number of people becoming self-employed after losing their jobs and the growing informal or parallel sector of economy that has created new jobs.<sup>206</sup> In fact, in the Commonwealth of Independent States (CIS)<sup>207</sup>, every third to every second worker has an informal sector job.<sup>208</sup> In Azerbaijan and Kazakhstan, in particular, the informal sector accounts for half of the economy.<sup>209</sup>

One other interesting pattern related to the transition that has occurred and briefly

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199 Ibid

200 Ibid, p. 16

201 Ibid, p. 18

202 Ibid

203 Ibid

204 Kulzhanov, M., Rechel, B. (2007). Kazakhstan: health system review. *Health systems in transition*, 9(7), 24

205 Simai, M. (2006). Poverty and inequality in Eastern Europe and the CIS transition economies. *UN/DESA working paper*, 17, 4

206 Ibid, p. 9

207 CIS consists of countries of the Former Soviet Union

208 Rutkowski, J., Scarpetta, S., Banerji, A., O'Keefe, Ph., Pierre, G., & Vodopivec, M. (2005). Enhancing job opportunities: Eastern Europe and the Former Soviet Union. *The International Bank for Reconstruction and Development/The WB*, 93

209 Ibid

mentioned above was the shift from secure, though not highly rewarding employment, to less stable jobs with greater earning potential.<sup>210</sup> This shift could be partly explained by the fact that firms in the transition economies have emerged during a period of profound economic and social transformation, and within an environment of macroeconomic and political instability.<sup>211</sup> All of these described components of instability have further led to *business insecurity*.

There are several other factors that contribute to the perceived business uncertainty among which are insecurity of property rights and contract enforcement, frequent regulatory changes, arbitrary and selective application of the law, bureaucratic harassment and extortion, as well as crime.<sup>212</sup> These factors, in turn, substantially contribute to the increased risk and uncertainty in the transition economies.

On individual worker level, they were left to confront uncertainties in their career prospects and job stability on their own. During rapid transformation, in which many jobs are destroyed and others are created in different firms, sectors, and often locations, these uncertainties are high.<sup>213</sup> Only government, in this case, can help workers cope with these rapid changes by insuring against the risk of job and income loss and improving the functions of the labor market.<sup>214</sup> However, as mentioned earlier, during the transformation time, the government was only concerned with political and economic reforms and has generally neglected the human aspects of the transition process.

Overall, as demonstrated from the above discussion, high business risks are an inherent feature of the transition, but bad governance often contributes to this natural uncertainty even further. Frequent changes in regulations, lack of regulatory consistency and clarity, arbitrary

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<sup>210</sup> Ibid, p. 12

<sup>211</sup> Ibid, p. 33

<sup>212</sup> Ibid

<sup>213</sup> Ibid, p. 34

<sup>214</sup> Ibid

interpretation of regulations and their selective enforcement, and (last, but not least) corruption<sup>215</sup> that are common to the transition economies continue to increase risks and uncertainties in their labor markets.

At the same time, as suggested by Mackintosh (2006), to function effectively, markets need, as was discussed earlier, *institutions* to sustain stability, reduce market failures and provide the means for people to gain entry to markets.<sup>216</sup> In the case of transition economies, however, the so-called “*institutional wandering*”, or the process of institutional transformation, described as having the inefficient legal system, poor protection of property rights, and corruption (among some) occurs and creates instead only further uncertainty, which is unable to provide stability to the otherwise unpredictable reality.<sup>217</sup>

Considering realities of transition economies characterized as having a lot of risks and uncertainties and undergoing a difficult transformation process, the study considers: the degree to which economic and behavioral incentives interact with different perceptions of sectoral risk, and subsequently shape the decision to move from the public sector to the private sector; in particular in Kazakhstan’s health industry. In other words, it is not only that the market process itself is fundamentally uncertain but also the whole surrounding institutional framework in general is shattered in transition economies,<sup>218</sup> which challenge any types of decisions (for instance, investment decisions, or broader political and economic decisions). In the case of the study, employment decisions that individuals make, including sector switching within the health care sector, contain high level of risk.

In general, transition-specific sources of uncertainty can be broadly classified into three

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215 Ibid, p. 158

216 Mackintosh, M. (2006). Commercialization, inequality and the limits to transition in health care: a Polanyian framework for policy analysis. *Journal of international development*, 18(3), 395

217 Ibid

218 Susjan, A., Redek, T. (2008). Uncertainty and growth in transition economies. *Review of Social Economy*, 66(2), 213

groups (Lah and Sus̆jan 1999: 591) (as suggested in the Figure 1, Susjan and Redek (2008): (i) the sources stemming from the institutional and systemic transformation, or the above mentioned “institutional wandering”, (ii) behavioral legacies of the past system that were earlier described as having inefficient legal institutions and corruption, and (iii) the sources related with political instability and social changes that are described by social tensions related with increased social differentiation of rich vs. poor, employed vs unemployed, as well as overall wage inequalities, and ethnic conflicts.<sup>219</sup> All these transition-specific sources substantially increase fundamental uncertainty of the environment in transition economies.

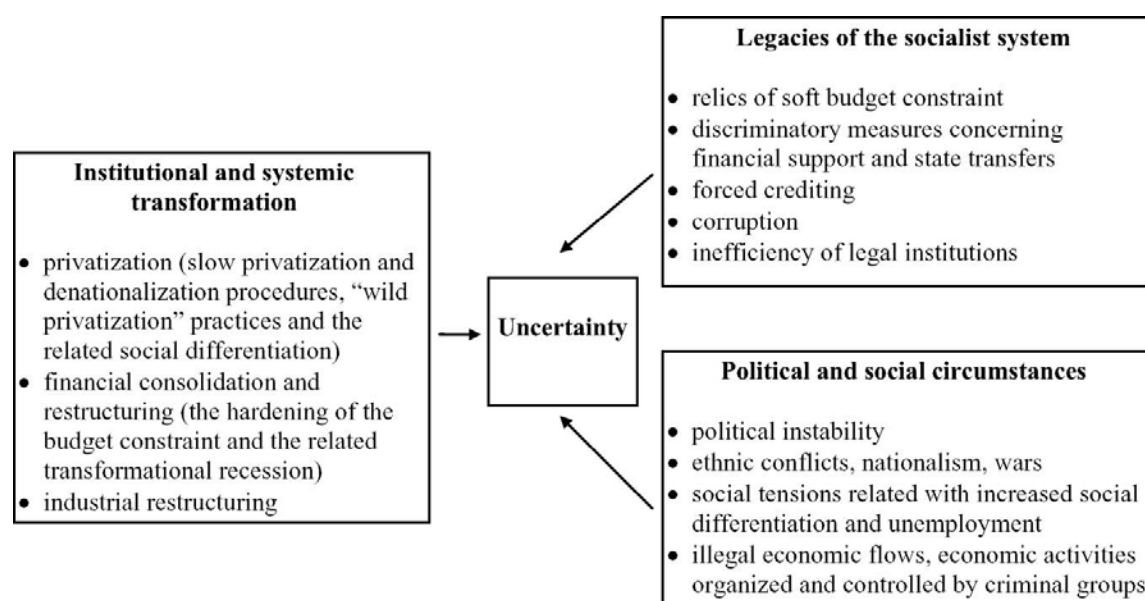


Figure 1: Sources of Uncertainty in the Transitional Economic Environment (Susjan and Redek (2008):<sup>220</sup>

An example of factors related to institutional/systemic transformation (mentioned in Figure 1), when it comes to transitional environment is *privatization*. In transition economies, due to the lack in protection of property rights and not clearly defined ownership, uncertainty is increased and leads to such phenomenon as “wild” privatization (also called “piratization”) where large amounts of

<sup>219</sup> Ibid, p. 214

<sup>220</sup> Ibid

socialist property is transferred into private hands semi-legally or illegally.<sup>221</sup>

In the case of health care sector in Kazakhstan, for instance, various problems in the privatization process have emerged, including the lack of national control over licensing and over professional standards, the illegal privatization of some health care facilities, unlawful profit-making and the misuse of privatized facilities.<sup>222</sup> Nevertheless, the pharmaceuticals and medical supplies sub-sector, most dental care facilities and some general health facilities were now privatized.<sup>223</sup>

In relation to legacies of the past system, these are earlier discussed issues with transition being not as successful as envisioned due to the legal system being inefficient, inconsistent, contradictory legislation being practiced, as well as slow legal procedures utilized. Frequent changing of laws, inability of strict enforcement of obligations, poor protection of property rights, and corruption<sup>224</sup> are all outcomes of the transition from the past system that are present in situations of transition economies, like Kazakhstan.

In the case of the political and social circumstances, such process as *political democratization* that every former socialist country goes through, in most cases is also associated with the escalation of ethnic conflicts, overall political instability and even wars.<sup>225</sup> All of these after-effects increase uncertainty and mark the ground for black economy and illegal economic flows, controlled by various “interest groups”, criminal organizations, and corrupt local authorities.<sup>226</sup>

As seen from the above discussion, in order to successfully develop, transition economies need to consolidate their *institutional framework*.<sup>227</sup> Uncertainties, however, common for unstable

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221 Ibid, p. 215

222 Kulzhanov, M., Rechel, B. (2007). Kazakhstan: health system review. *Health systems in transition*, 9(7), 33

223 Ibragimov, A., Meimanaliev, A., & Veen, J. (2007). Policy assessment report: Kazakhstan (for the Central Asian TB control partnership). *Project HOPE Central Asia & Campis International & USAID*, 46

224 Susjan, A., Redek, T. (2008). Uncertainty and growth in transition economies. *Review of Social Economy*, 66(2), 216

225 Ibid

226 Ibid

227 Ibid

markets have an overall negative impact on country's economic and political development. Experienced risks do not only affect country's overall further prosperity or well-being, but also have an effect on people who live in uncertain environment and need to be able to make different kinds of decisions, including employment ones.

### **3.3. Realities of public health care system within transition economies:**

As suggested earlier in the discussion, characteristics of sectors in the case of transition economies are different from those common for stable economies. Difference is proposed to lie in the fact that in stable economies, public sector employees' decision to work in the public sector is explained by relatively generous fringe benefits and job security that the sector offers. In situations of transition economies, however, most often additional monetary compensations in a form of informal payments (among some) motivate people to continue working in this sector.

The transition process in general has led to increasing disparity between the formal salaries of health workers and workers in other sectors.<sup>228</sup> It is rather common for some health workers to hold two or even three posts within the same hospital.<sup>229</sup> There are also delays in the payment of salaries that are making physicians vulnerable in an environment of disparity and overall uncertainty of the health care sector. At the same time, situation of health care physicians' salaries raising questions about ways they are able to survive (considering delays in salary payments) and provide for their families.<sup>230</sup>

When considering the above suggestions that innately risk-averse individuals have a greater

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228 Thompson, R., Witter, S. (2000). Informal payments in transitional economies: implications for health sector reform. *The international journal of health planning and management*, 15(3), 178

229 Ibid

230 Ibid

probability of choosing the public sector than the private sector one and when looking at the situation of occupation sectors within the realities of transition economies, it could be suggested that compared to the public sector employees in developed countries, who receive higher average earnings, the public sector employees in transition countries receive much lower wages than their private sector counterparts.<sup>231</sup> This situation brings about an important point as to why we do not envision greater number of public employees in transition economies switching to the private or non-profit sectors.

One of the explanations suggested by Gorodnichenko and Peter (2007), is a proposition that public sector employees in transition economies have additional monetary compensation – in a form of *informal payments* – which they receive for providing services to general population that keep them motivated to work in the public sector.

According to Thompson and Witter (2000), informal payment systems play an important role in sustaining health care systems in many countries of the Former Soviet Union.<sup>232</sup> Public expenditure constraints have had a significant deteriorating effect on health sector funding and resulted in a decline in the quality of state health care.<sup>233</sup> Patients are routinely asked to pay for the medicines and other supplies required for their medical treatment.<sup>234</sup>

During the Soviet times, basic education, housing and health care were available to all and there was full employment with relatively equal income distribution.<sup>235</sup> These achievements, however, were attained within a system of central planning that turned out to be inefficient and

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231 Gorodnichenko, Y., Peter, K. S. (2007). Public sector pay and corruption: measuring bribery from micro data. *Journal of public economics*, 91(5-6), 964

232 Thompson, R., Witter, S. (2000). Informal payments in transitional economies: implications for health sector reform. *The international journal of health planning and management*, 15(3), p. 169

233 Ibid

234 Ibid

235 Ibid, p. 170

unsustainable.<sup>236</sup> Reductions of economic growth contributed to a development of a system of personalized bargaining that was based on connections.<sup>237</sup> In order to obtain quicker services or scarce high quality goods individuals turned to informal markets or used their connections.<sup>238</sup> This was true for food and clothing as it was for medical care.<sup>239</sup>

Moreover, the chronic underfunding of health services has had an effect on the quality of services, maintenance of facilities being neglected and low staff morale because of earlier mentioned delays in salaries and lack of equipment.<sup>240</sup> Many hospitals require patients to provide medicines for in-patient treatment and increasingly charges are being introduced for certain types of service.<sup>241</sup> As a result, unofficial payments have proliferated resulting uncertainty over the cost of health care for patients.<sup>242</sup>

*Informal payments* can be described as payments made by individuals to state health workers or institutions but which are not authorized by the authorities.<sup>243</sup> They are given for a number of reasons including tips for health workers, the purchase of medicines and other supplies, and payments demanded by health workers or institutions for access to certain services or better quality care.<sup>244</sup>

Gaal and McKee (2005) divide informal payments into largely involuntary monetary exchanges resulting from low morale and insufficient law enforcement, and voluntary donations or gifts rooted in the tradition of expressing gratitude for successful treatment.<sup>245</sup> The explanations for

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236 Ibid

237 Ibid

238 Ibid

239 Ibid

240 Ibid, p. 171

241 Ibid

242 Ibid, p. 172

243 Ibid

244 Ibid

245 Fotaki, M. (2009). Informal payments: a side effect of transition or a mechanism for sustaining the illusion of 'free' health care? The experience of four regions in the Russian Federation. *Journal of social policy*, 38(4), 650

the origins of informal payments also vary.<sup>246</sup> One is that they are temporary side effects of the transition, resulting from underfunding, an absence of institutions, a lack of accountability (World Bank, 2000; Lewis, 2002; Kornai and Eggleston, 2001) and inefficient law enforcement (Gotsadze et al., 2005; TACIS, 2000).<sup>247</sup>

In general, the universal reduction in public spending on services and real-terms decrease in public sector salaries<sup>248</sup> are among the reasons for informal payments' flourishing in transition economies. These payments are likely to represent a huge slice of total spending on health care, although reliable estimates are difficult to obtain.<sup>249</sup> In Kazakhstan, for instance, it is estimated that patients may have contributed between 25%-30% of the state budget in the form of medicines alone in 1996.<sup>250</sup> If one considers the payments made in the form of gifts, bribes and solicited payments the figure is likely to be substantially higher.<sup>251</sup>

Informal payments are not formally included in institutional accounting and - in the case of tips, bribes and solicited payments - are not officially considered part of a workers income.<sup>252</sup> As funds are so short these become 'quasi-formal' payments that are constitutionally illegal but are suggested to be overlooked by the central government because of public expenditure constraints.<sup>253</sup>

Many studies suggest that informal payments are driven by a number of factors.<sup>254</sup> Among which are a tradition of patients giving gifts, poor salaries of physicians, scarcity of medicines and other supplies, and perceived low levels of service quality by patients.<sup>255</sup> At the same time, inefficient

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246 Ibid

247 Ibid

248 Ensor, T. (2004). Informal payments for health care in transition economies. *Social science & medicine*, 58(2), January, 2

249 Thompson, R., Witter, S. (2000). Informal payments in transitional economies: implications for health sector reform. *The international journal of health planning and management*, 15(3), 172

250 Ibid

251 Ibid

252 Ibid

253 Ibid, p. 174

254 Ibid

255 Ibid

regulatory frameworks and the absence of private providers also play an important role in promoting informal payments' practices in economies of transition.<sup>256</sup>

Informal payments are considered as a possible way of relieving pressure from the public purse, allowing the health care system to function by keeping health professionals within it (Gaal and McKee, 2005; Gaal et al., 2006).<sup>257</sup> Informal payments are also viewed as means of empowering patients to reward responsive health care professionals (Chawla et al., 1998; Balabanova and McKee, 2002).<sup>258</sup>

One of the concerns with informal payments is that they lead to inefficiencies of the health care sector (Ensor, 2004: 241). As they go unreported, they are not audited or monitored (Lewis, 2002), and thus cannot be fully integrated into the financing of health care.<sup>259</sup> In other words, they also represent a failure to capture valuable revenue, which could be targeted instead towards health policy objectives.<sup>260</sup> Moreover, informal payments create perverse financial incentives and have a negative impact on equity.<sup>261</sup> In addition, informal payments undermine health policy goals and are suggested to enable physicians in using their power to oppose reforms aimed at restraining their 'additional' source of income (Gaal and McKee, 2005).<sup>262</sup>

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256 Ibid

257 Fotaki, M. (2009). Informal payments: a side effect of transition or a mechanism for sustaining the illusion of 'free' health care? The experience of four regions in the Russian Federation. *Journal of social policy*, 38(4), 650

258 Ibid

259 Ibid, p. 650-651

260 Thompson, R., Witter, S. (2000). Informal payments in transitional economies: implications for health sector reform. *The international journal of health planning and management*, 15(3), 186

261 Ibid

262 Fotaki, M. (2009). Informal payments: a side effect of transition or a mechanism for sustaining the illusion of 'free' health care? The experience of four regions in the Russian Federation. *Journal of social policy*, 38(4), 651

### 3.4. Realities of private health care system within transition economies:

Despite the fact found by Johnson and Loveman (1995) that the formation of entrepreneurial startup ventures is the most effective way to relocate labor and capital in a transitional economy, there is a combination of environmental factors that limit the development of entrepreneurial new ventures in transitional economies, like Kazakhstan.<sup>263</sup>

Among some of those environmental factors are - resistance to change in the prevailing bureaucratic-administrative business culture, underdeveloped legal and financial infrastructure, considerable administrative discretion and corruption in different government offices, restrictive taxation, high interest rates, inflation, and lack of management expertise and skills (Connor, 1991; Kaser, 1995; Kornai, 1995)<sup>264</sup> - that are suggested to be limiting entrepreneurship's development.<sup>265</sup>

It is further suggested that the political and administrative discretion does not only encourage corruption, but also generates unnecessary uncertainty, makes individual planning by potential entrepreneurs more difficult, and leaves individual and property rights less secure.<sup>266</sup> In addition, one other problem that is common for transition economies is a fast pace of change in an environment of uncertainty where government regulations concerning private economic activity are changing at a dizzying pace.<sup>267</sup> Legal agreements today may be illegal or heavily taxed tomorrow.<sup>268</sup> It is difficult to understand laws, regulations, and taxes, for they are often contradictory.<sup>269</sup> As a result, all of this uncertainty over ownership and what transactions are legal challenges entrepreneurial

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263 Luthans, F., Stajkovic, A., & Ibrayeva, E. (2000). Environmental and psychological challenges facing entrepreneurial development in transitional economies. *Journal of world business*, 35(1), 96

264 Ibid

265 Ibid, p. 97

266 Ibid

267 Ibid, p. 101

268 Ibid

269 Ibid

development.<sup>270</sup>

Considering all of the above, it is obvious why many physicians in Kazakhstan prefer switching to already existing medical institution in private sector, if they decided to leave the public one, rather than starting their own business initiative. As seen, economic costs of starting or doing business are so high that it is almost impossible to hope for entrepreneurial development without a change in government policy and enforcement of crime and corruption.<sup>271</sup>

### 3.5. Summary:

There is a different employment reality in countries in transition that is accompanied with distinctive risks and uncertainties. Sector switching phenomenon in such environments thus requires a different set of determinants - with a great emphasis on risk perception - to explain career changes.

Realities of transition economies are characterized by overall employment insecurity where *job security* is largely lost, *benefits* are cut-off, and the informal or parallel sector of economy established and is creating new, but less protected jobs with fewer benefits. Overall *business insecurity*, influenced by such factors as insecurity of property rights and contract enforcement, frequent regulatory changes, arbitrary and selective application of the law, bureaucratic harassment and extortion create business uncertainty in countries in transition.

Moreover, there are particular transition-specific sources of uncertainty - the sources stemming from the institutional and systemic transformation, behavioral legacies of the past system, and the sources related with political instability and social changes - that substantially increase fundamental uncertainty of the environment in transition economies.

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<sup>270</sup> Ibid

<sup>271</sup> Ibid

There are also various factors (gender, age, race, and religious differences, as well as marital status) that affect risk perception on an individual worker level. Risk assessment, at the same time, may be defined as any process in which risk considerations play an important role in forming an input to decision-making. Yet, risk in itself has different types, scopes and effects, as well as attitudes, ideology and various ways it is being presented and discussed (in media and by people). All of these characteristics jointly influence how risk is viewed and perceived by individuals. At the same time, stimulus-response kind of thinking of an individual in relation to a specific situation is what after all happens where risk as a unidimensional psychological response varies systematically and accordingly to various factors that might be influencing it.

In relation to occupation choice and risk aversion, what is suggested is that measured risk aversion among workers is significantly correlated with sectoral choice and that innately risk-averse individuals have a greater probability of choosing public than private sector of employment. Moreover, labor-force participants suggested to correctly perceive that less risk is attached to public sector employment, and act on this information. This observation is especially important for this study and is being considered in relation to whether health care professionals in public sector of Kazakhstan are able to calculate which sector – public or private – is risk-averse for them to work in and act accordingly on that information.

As already identified, little is still known about the dynamics of sector switching behavior or the characteristics of sector switchers, particularly in the case of transitional economies. The literature review sections looked at the extended literature with an eye toward the behavioral and economic incentives faced by “sector switchers”, traditional explanations for the phenomenon to occur, as well as the risks and uncertainties common for transition economies.

The conceptual framework suggested general concepts to provide an overview on sector switching phenomenon to compare it to realities of transition economies. Economic and behavioral factors proposed most often offered reasons for choosing a sector of employment and switching sectors when not satisfied with what is available. Traditional explanations, at the same time, demonstrated that they seem to be unable to explain what determines sector switching in an environment of transition economies, identified with risks and uncertainties.

An overview on risks or uncertainties characteristic to transition economies, in the meantime, identified the problem statement for the study, which is to consider: the degree to which economic and behavioral incentives interact with different perceptions of sectoral risk, and subsequently shape the decision to move from the public to the private sector; in particular in Kazakhstan's health industry.

At the same time, realities of transition economies that are characterized as having many uncertainties are suggested to have, in turn, an overall negative impact on their economic and political development. During the transformation time, the government is only concerned with political and economic reforms and generally neglects the human aspects of the transition process. As a result, individuals are left to confront uncertainties in their career prospects and job stability on their own.

As mentioned earlier, during rapid transformation, in which many jobs are destroyed and others are created in different firms, sectors, and often locations, these uncertainties are high. High business risks as an inherent feature of the transition, and bad governance are among those factors that contribute to the natural uncertainty of transition economies even further. Earlier discussed frequent changes in regulations, lack of regulatory consistency and clarity, arbitrary interpretation of regulations and their selective enforcement, and (last, but not least) corruption that are common to

the transition economies continue to increase risks and uncertainties in their labor markets. Moreover, such factors as flourishing informal payments' system and overall environmental and psychological challenges limiting entrepreneurial development in transitional economies oppose initiation of reforms necessary to improve the situation with providing greater alternative options for individuals in relation to their employment opportunities.

## CHAPTER IV

### 4.0. HYPOTHESES:

The literature reviewed in the previous section suggests a set of hypotheses that are aimed to test both economic and behavioral factors that affect health care professionals in their decisions to switch their job occupations (dependent variables) from the public to either the private or non-profit sectors of transitional economies; in particular in Kazakhstan.

The general model for the research is, therefore, as follows:

#### Sector switching f

**(Individual factors + Economic factors + Behavioral factors) x Perception of Risk**

Considering the general model and a claim of this study that risky environments of transitional economies change the traditional explanations of sector switching, there are *two sets of proposed hypotheses* for this study.

The *first set* is related to the general perception of risks or uncertainties that are common for transitional economies and their environments. The issue at hand, then is: the degree to which risks are perceived by health care professionals within *health care infrastructure, investments* made into the health care sector (or lack, thereof), and the *health care reforms* that are being implemented in the country and how these variations in risk perceptions affect ones decision to switch their sectors of employment.

The *second set* of hypotheses is related to ways in which *economic and behavior factors* interact with variations in risk perceptions to influence health care personnel's decisions to switch sectors of

employment. Among some of the economic factors that are considered by the research are *salaries* that health care professionals in Kazakhstan receive for their work. At the same time, *job satisfaction* is among those behavioral factors used by the research to see whether and how health care personnel in the country is satisfied with their employment arrangements.

#### 4.1. Perceptions of risk:

As suggested by An and Becker (2009), it is not easy to generate an indicator of uncertainty.<sup>272</sup> In general, uncertainty or risk occurs in situations where at least some essential information about future events cannot be known at the moment of making decisions, since this information does not exist or cannot be inferred from any existing data set.<sup>273</sup> At the same time, in situations of transition economies, as suggested earlier, the level of uncertainty or risk is high and results from *the transition-specific sources of uncertainty* that occur in a form of earlier discussed “institutional wandering”, legacies of the past system, as well as political and social circumstances.

As proposed earlier, variations in risk perceptions among health care professionals in the case of the health care sector of Kazakhstan is being operationalized in this study by looking at the situation in relation to conditions of the health care infrastructure today compared to previous years, investments made to the health care sector, as well as introduction, implementation, and necessity for health care reforms.

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272 An, G., Becker, Ch. (2009). Another partition? Perception of uncertainty and emigration from Kazakhstan to Russia 1999-2007. *Rakurs. Center for Economic Analysis*, Discussion papers, 5.1, 2

273 Dequech, D. (1999). Expectations and confidence under uncertainty. *Journal of post Keynesian economics*, 21(3), 415-416

#### 4.1.1. Risks 1: Infrastructure and investment:

The research suggests that *diminishing conditions of health care infrastructure and lack of investments* made into the health sector create uncertainties and affect health care professionals and their employment decisions by increasing variations in their risk perceptions. This may result in their actions to look for occupation alternatives in private or non-profit organizations and find jobs in those sectors.

In health care, provision of health services is directly linked to hospital infrastructure and resources available where patient care cannot be effective without the correct amount of resources.<sup>274</sup> As a result, poor infrastructure or lack of materials can only further contribute to demotivation of health professionals in providing quality care.<sup>275</sup> Examples from many developing countries suggest that health care systems are suffering from years of underinvestment, and for health care workers in particular this has resulted in low wages, poor working conditions, a lack of leadership, and few incentives of any kind.<sup>276</sup>

In other words, when the health sector is severely under-resourced it is difficult to hold people accountable for how they do their jobs.<sup>277</sup> Therefore, some suggest that improving working and living conditions maybe more effective than increasing wages<sup>278</sup> to motivate health care personnel to do their job well.

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274 Willis-Shattuck, M., Bidwell, P., Thomas, S., Wyness, L., Blaauw, D., & Ditlopo, P. (2008). Motivation and retention of health workers in developing countries: a systematic review. *BMC Health services research*, 8(247), 5

275 Ibid

276 Stilwell, B., Diallo, Kh., Zurn, P., Vujicic, M., Adams, O., & Dal Poz, M. (2004). Migration of health care workers from developing countries: strategic approaches to its management. *Department of health service provision, WHO*, 82(8)

277 Flitzen, S. (2007). Strategic management of the health workforce in developing countries: what have we learned? *Human resources for health*, 5(4), 6

278 Willis-Shattuck, M., Bidwell, P., Thomas, S., Wyness, L., Blaauw, D., & Ditlopo, P. (2008). Motivation and retention of health workers in developing countries: a systematic review. *BMC Health services research*, 8(247), 5

Hypothesis 1: As the perception of conditions of health care infrastructure and the volume of investments made in health care sector diminishes (as perceived by health care professionals and compared to previous years and other sectors), perception of uncertainty within that particular sector (public, private or non-profit) increases among health care professionals leading to a likelihood of sector switching.

Given what we know of the state of affairs with respect to the infrastructure and investment patterns, the expectation is that:

Proposition a: the public health sector will be viewed as more or less risky to work in depending on variation in health care professionals' perception about conditions of the public health care infrastructure (diminishing or not) and investments (or lack, thereof) made to the public health sector. In other words, when health care professionals believe that there is diminishing infrastructure and lack of investments in the public health sector, this sector is viewed as risky. At the same time, the public health sector will be viewed as less risky to work in when health care professionals believe that the infrastructure is not diminishing and there is enough investments made to the public health sector.

Proposition b: the private health sector will be viewed as more risky to work in, when health care professionals believe that there is diminishing condition of infrastructure and lack of investments made to the private health sector. At the same time, the private health sector will be viewed as less risky to work in when health care professionals believe that the infrastructure is not diminishing and there is enough investments made to the private health sector.

Proposition c: the non-profit health sector will be viewed as more risky to work in, when health care professionals believe that there is diminishing condition of infrastructure and lack of investments made to the non-profit health sector. At the same time, the non-profit health sector will

be viewed as less risky to work in when health care professionals believe that the infrastructure is not diminishing and there is enough investments made to the non-profit health sector.

The above propositions and possible outcomes are suggested based on variations in health care professionals' perceptions about whether public, private or non-profit health care industry is risky or not to work in depending on their decisions about the condition of the health care infrastructure (diminishing or not) and the investments (or lack, thereof) made into the public, private or non-profit health care industry.

#### 4.1.2 Risk 2: Health care reforms:

The research also suggests that *health care reforms* that are introduced and implemented in the country create greater uncertainty of the health care sector and its further development. This occurs since they are imposed by the government through the top-down approach, thus, excluding health care professionals from the process of reforms' initiation and deprive of their feeling of ownership and engagement with the reforms' process. Such lack of involvement of health care professionals with reforms makes them less feasible or sustainable. It also increases variations in health personnel's perception of risk in the sector.

Therefore, this tendency with uncertainty around introduction, implementation, and necessity for health care reforms affect health professionals by increasing variations in their perceptions of risk in the sector, and result in their decisions to look for occupation alternatives in private or non-profit organizations to find jobs in those sectors. As a result,

Hypothesis 2: As the perception of quality of health care reforms declines, (as perceived by health care professionals and compared to other sectors in relation to health care reforms imposed by the

government), perception of uncertainty in health care sector increases among health care professionals thus leading to a likelihood of sector switching.

Given what we know of the state of affairs with respect to health care reforms where quality of reforms matters with declining one increasing perceptions of risk of the sector, the expectation is that:

Proposition a: the public health sector will be viewed as more or less risky to work in depending on variation in health care professionals' perception about a number of health care reforms introduced and implemented concerning the public health sector. In other words, when health care professionals believe that a number of introduced and implemented health care reforms concerning the public health care industry was too big, thus, suggesting that the public health care industry is still in need of further reformation, and the sector is viewed as risky. At the same time, the public health sector will be viewed as less risky to work in when health care professionals believe that a number of introduced and implemented health care reforms concerning the public health care industry was enough.

Proposition b: the private health sector will be viewed as more risky to work in, when health care professionals believe that a number of introduced and implemented health care reforms concerning the private health care industry was too big, thus, suggesting that the private health care industry is still in need of further reformation, and the sector is viewed as risky. At the same time, the private health sector will be viewed as less risky to work in when health care professionals believe that a number of introduced and implemented health care reforms concerning the private health care industry was enough.

Proposition c: the non-profit health sector will be viewed as more risky to work in, when health care professionals believe that a number of introduced and implemented health care reforms

concerning the non-profit health care industry was too big, thus, suggesting that the non-profit health care industry is still in need of further reformation, and the sector is viewed as risky. At the same time, the non-profit health sector will be viewed as less risky to work in when health care professionals believe that a number of introduced and implemented health care reforms concerning the non-profit health care industry was enough.

The above propositions and possible outcomes are suggested based on variation in health care professionals' perceptions about whether public, private or non-profit health care industry is risky or not to work in depending on their decisions about the number of introduced and implemented health care reforms concerning that particular health care industry.

#### **4.2. The decision to switch sectors:**

The second set of hypotheses explicitly addresses the issue of sector switching. These hypotheses consider the interaction between economic factors, behavioral factors and variation in perception of risk.

Among some of the *economic factors* that influence sector switching for health care personnel are low salaries and substantial decline in benefits (job security as one of benefits) provided to them during the period of transition that the country is experiencing now. These factors are suggested to lead to health personnel's decisions to ask for *informal payments* from patients, as suggested earlier, substituting for their low salaries or to a decision to *migrate* to countries where their skills are highly valued.

Among some of the *behavioral factors* that matter when it comes to health care professionals' decision to either continue working within the public health care sector or switch to private or non-profit one are *job satisfaction* and *motivation*.

#### 4.2.1 Economic factors (salary & benefits):

The research argues that having *low salary* influences health care professionals to look for occupation alternatives in private or non-profit organizations (with generally higher monetary compensations) and find jobs in those sectors. At the same time, substantial *decline in benefits* (job security as one) provided to health care professionals encourage them to find jobs in private or non-profit organizations with more benefits provided.

#### *Salary & Benefits:*

Public sector workers in general have been shown to earn less than their private sector peers (at least after one controls for education, tenure, and skill level).<sup>279</sup> Moreover, prior research has suggested that low salaries were de-motivating for health workers feeling that their skills were not valued.<sup>280</sup> However, at the same time, many public administration scholars argue that money matters less, and nonpecuniary benefits matter more, to public- than to private-sector employees (Crewson 1997; Kalr and Sutton 1998; Kilpatrick, Cummings, and Jennings 1964; Perry and Porter 1982; Rainey 1982; Wittmer 1991). The interest of the research is in finding out whether and to what extent total remuneration affects health personnel in their decisions about their employment sector.

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279 Su, X., Bozeman, B. (2009). Dynamics of sector switching: hazard models predicting changes from private sector jobs to public and nonprofit sector jobs. *Public administration review*, 69(6), 1107

280 Willis-Shattuck, M., Bidwell, P., Thomas, S., Wyness, L., Blaauw, D., & Ditlopo, P. (2008). Motivation and retention of health workers in developing countries: a systematic review. *BMC Health services research*, 8(247), 4

Some additional factors that this research is interested in examining are related to possible outcomes of what otherwise has to be improved in the health sector of Kazakhstan. One of the factors is *informal payments* that are forced to be made by patients because resources are inadequate to properly finance the (staff) costs of medical treatment.<sup>281</sup> There are now numerous examples of patients that contribute towards the cost of drugs, food and other supplies either through monetary or in-kind contributions. In Kazakhstan, for instance, estimates suggest that unofficial payments add to at least 30-35% to public health expenditures on food and supplies alone.<sup>282</sup> More specifically, are variations in perceived risks mitigated through an increase in overall remuneration?

Hypothesis 3: The greater physicians are dissatisfied with the combination of salary & benefits that they are compensated with (compared to others with similar education and qualification), the more likely they are to switch sector of their employment.

Given what we know of the state of affairs with respect to the combination of salary & benefits the expectation is that:

Proposition a: the public health sector will be viewed as more or less risky to work in depending on variation in health care professionals' perception about an amount of an overall remuneration (salary & benefits) that they should be compensated with for working in the public health sector. In other words, in cases when health professionals believe that the amount of the overall remuneration, which they receive for working in the public health sector, is not enough and should be greater, the public health sector is viewed as risky to work in. At the same time, the public health sector will be viewed as less risky to work in when health care professionals believe that the amount of the overall remuneration, which they receive for working in the public health sector, is enough.

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281 Ensor, T. (2004). Informal payments for health care in transition economies. *Social science & medicine*, 58(2), January, 3

282 Ibid

Proposition b: the private health sector will be viewed as more risky to work in, when health professionals believe that the amount of the overall remuneration, which they receive for working in the private health sector is not enough and should be greater, the private health sector is viewed as risky to work in. At the same time, the private health sector will be viewed as less risky to work in when health care professionals believe that the amount of the overall remuneration, which they receive for working in the private health sector, is enough.

Proposition c: the non-profit health sector will be viewed as more risky to work in, when health professionals believe that the amount of the overall remuneration which they receive for working in the non-profit health sector is not enough and should be greater, the non-profit health sector is viewed as risky to work in. At the same time, the non-profit health sector will be viewed as less risky to work in when health care professionals believe that the amount of the overall remuneration which they receive for working in the non-profit health sector is enough.

The above propositions and possible outcomes are suggested based on health care professionals' variations in perceptions about whether public, private or non-profit health care industry is risky or not to work in depending on their decisions about an amount of an overall remuneration that they should be compensated with for working in the public, private or non-profit health care industry and whether this amount of an overall remuneration is enough or should be greater.

#### 4.2.2. Behavioral factors (job satisfaction & motivation):

##### *Job satisfaction:*

It is generally believed that high job satisfaction determines not only better employee performance, but also suggests higher level of patient satisfaction.<sup>283</sup> It is vital for employees' motivation and efficiency. As a result, it is usually suggested to build conditions that motivate medical professionals to stay and work<sup>284</sup> in the public health care system. As well as the opposite, to reduce a lack of health care personnel there is a need to enhance their job satisfaction.

Employees with higher job satisfaction are believed to care more about the quality of their work and are more committed to their organization.<sup>285</sup> They stay in it longer and are more productive. In addition, job satisfaction reduces employee turnover, absenteeism, and the number of thefts at work, which in turn reduces organizational costs.<sup>286</sup>

As to the most valued aspects of satisfaction, they comprise of such things as compensation, promotion opportunities, fringe benefits, bonuses, management, coworkers, working conditions, nature of work, communication, and security.<sup>287</sup> In addition, a competitive salary and additional rewards such as release from work due to family matters, flexible work schedule, and child raising support affect a level of job satisfaction. Moreover, such factors as adequate working hours and workload, stable working environment, and support of administration also directly affect employee satisfaction, their competence and feeling of effectiveness in the organization. As a result, this research is interested in examining whether and to what extent levels of job satisfaction of health sector personnel affect their decisions regarding sectors of their job employment.

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283 Ibid

284 Ibid

285 Ibid

286 Ibid

287 Ibid

*Motivation:*

Service quality, efficiency, and equity are all directly mediated by workers' motivation or their general willingness to apply themselves to their tasks.<sup>288</sup> Thus, this research is interested in studying whether and to what extent health sector workers' motivation affects their selection of job occupation sectors.

Hypothesis 4: The greater physicians are dissatisfied with their job (job satisfaction), the more likely they are to switch sector of their employment.

Given what we know of the state of affairs with respect to the job satisfaction & motivation the expectation is that:

Proposition a: the public health sector will be viewed as more or less risky to work in depending on variation in health care professionals' perception about a level of job satisfaction provided by the public health care sector for working there. In other words, in cases when health professionals believe that the level of job satisfaction, which they receive, is not enough and should be greater, the public health sector is viewed as risky to work in. At the same time, the public health sector will be viewed as less risky to work in when health care professionals believe that the level of job satisfaction, which they receive for working in the public health sector, is enough.

Proposition b: the private health sector will be viewed as more risky to work in, when health professionals believe that the level of job satisfaction which they receive is not enough and should be greater, the private health sector is viewed as risky to work in. At the same time, the private health sector will be viewed as less risky to work in when health care professionals believe that the level of job satisfaction, which they receive for working in the private health sector, is enough.

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<sup>288</sup> Ibid

Proposition c: the non-profit health sector will be viewed as more risky to work in, when health professionals believe that the level of job satisfaction which they receive is not enough and should be greater, the non-profit health sector is viewed as risky to work in. At the same time, the non-profit health sector will be viewed as less risky to work in when health care professionals believe that the level of job satisfaction which they receive for working in the non-profit health sector is enough.

The above propositions and possible outcomes are suggested based on variations in health care professionals' perceptions about whether public, private or non-profit health care industry is risky or not to work in depending on their decisions about a level of job satisfaction that they should receive for working in the public, private or non-profit health care industry and whether the level of job satisfaction was enough or should be greater.

Finally, it is likely that job satisfaction and salary are closely related. That is, as salary increases one would expect to see indices of job satisfaction also increase; however, this is unlikely to be true in all cases. Considering the issue at hand – sector switching in risky markets – the question is does job satisfaction 'trump' salary increases or does salary increases or vice versa. Because the literature is not clear in this issue, no particular hypothesis can be generated but the issue is considered in this research.

### **4.3. Summary:**

This section proposed two sets of hypotheses. The *first set* is related to the general variation in perception of risks or uncertainties that are common for transition economies and their environments. It is viewed from the variation in perception of risk among health care professionals

about the health sector. It is also considered from the standpoint of the diminishing conditions of health care infrastructure, the lack of investments made into the health care sector, and the prospects of health care reforms that are being implemented in the country. These variables are claimed to demonstrate the general health care industry's decline, suggest the overall uncertainty in relation to its further development, and the overall increased variation in perception of risk in the sector among health care personnel, leading to their sector switching.

The *second set* of hypotheses is related to ways in which economic and behavior factors influence health personnel's decisions to switch sectors of employment. Economic (salary & benefits) and behavioral (job satisfaction and motivation) factors are used by the research to see whether and how health care personnel are able to evaluate risks of the sector within the transitional environments that they work in.

As a result, the purpose of this research is to examine the effect of these variables on variation in health care professionals' perceptions of risk of the sector and decisions to continue working within the public health care sector or switch to private or non-profit one. Consequently, the purpose of the research is to substantiate the suggested hypotheses.

## CHAPTER V

### 5.0. OVERVIEW OF THE HEALTH CARE REFORMS IN KAZAKHSTAN:

Twenty years have passed since Kazakhstan has become an independent country. Country experienced rapid and dramatic changes in its economic and political spheres. Someone who has visited Kazakhstan in early years of its independence would not recognize the country now. Changes are particularly seen in big cities with improved infrastructure and overpopulation. At the same time, someone would expect seeing more improvements made in the social sphere of the country, including its health care sector. Yet surprisingly would still find an old infrastructure (old buildings, some renovated), same poor quality health care services, long lines in polyclinics, inefficient ambulances, unmotivated and not-client oriented health personnel, and a general lack of physicians in outpatient facilities, especially in rural areas.

This section offers a brief overview of the Kazakhstan case; particularly relating to the issue of health care. I describe health care reforms' eras, and then offer some insights into the nature of health care financing and the distinctive features of the reform movement. The idea is to understand reasons for a lack of fundamental or positive changes in providing quality health care services to the population. Specifically, the interest lies in considering problems with the lack of personnel, or human capital in health care sector in the country.

Health sector reforms in Kazakhstan have taken “a rocky and uncertain path.”<sup>289</sup> The initial objective for the reforms was to withdraw from the Soviet Union socialist medicine, which had the largest number of hospitals, the greatest percentage of hospital beds to population, the biggest

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289 Borowitz, M., Atun, R. (2006). The unfinished journey from Semashko to Bismarck: health reform in Central Asia from 1991 to 2006. *Central Asian Survey*, 25(4), December, 434

number of physicians, and longer length of stay<sup>290</sup> to a more cost-effective, responsive market-oriented health care system.<sup>291</sup>

One of the key goals of the transition was to shift from the public financing of the health system to a mixed financing model underpinned by social health insurance.<sup>292</sup> The latest developments<sup>293</sup>, however, demonstrate that the Ministry of Health is returning control over the health management functions and the financing/distribution of resources from its regional (oblast level) administrations.<sup>294</sup>

For the health professionals, introduction and implementation of numerous reforms by the Ministry of Health in Kazakhstan seem to have re-motivational and threatening effects (which usually occur when there is a lack of communication about the objectives and rationale for reforms<sup>295</sup>). It is a fact that the feasibility and sustainability of reforms introduced rely heavily on the level of ‘buy-in’ and well-being of health sector personnel at all levels.<sup>296</sup> Therefore, both the content of the reform and how it is communicated determine workers’ perceptions (correct or incorrect) of how these changes might affect them and thus either choose to support or oppose to its realization.<sup>297</sup> In the case of Kazakhstan, reforms and their developments appear to instead increase a level of perceived uncertainty of the national system and result in health personnel potential switching to private or non-profit sectors.

The following discussion provides an overview on the health care sector’s progression in

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290 Ibid, p. 421

291 Ibid, p. 419

292 Ibid

293 Due to the financial crisis and economic challenges

294 This is being done with the recent introduction and implementation of a New Unifying National System of the health care

295 Franco, L., Bennett, S., & Kanfer, R. (2002). Health sector reform and public sector health worker motivation: a conceptual framework. *Social science & medicine*, 54(8), 1257

296 Fritzen, S. (2007). Strategic management of the health workforce in developing countries: what have we learned? *Human resources for health*, 5(4), 2

297 Franco, L., Bennett, S., & Kanfer, R. (2002). Health sector reform and public sector health worker motivation: a conceptual framework. *Social science & medicine*, 54(8), 1257

Kazakhstan (starting from the Soviet times to its current developments) and suggests the basis for understanding the occurrence of sector switching in the uncertainty context of the transition economy like Kazakhstan's.

### 5.1. Soviet times and the Semashko model of socialist medicine:

The initial transition in the country has originated by the fact that the Semashko model - based on centralized planning and administration, government financing and provision of services through publicly owned health care providers (which were universally accessible and free at the point of delivery)<sup>298</sup> - was no longer able to respond to the emergence of chronic illness and the health needs of the population in the late 1980s.<sup>299</sup> Sheaff (2005) pointed out that the economic collapse and social dislocation that resulted from the breakdown of the Soviet Union made it harder to manage the health services but, at the same time, have stimulated the reforms' process.<sup>300</sup>

The newly independent states in general have experienced a decrease in funding and "a breakdown in the health infrastructure" caused by a collapse of public funding and elimination of subsidies.<sup>301</sup> Rapid economic decline led to an even greater underinvestment in the health sector, creating a substantial funding gap between the levels of financing required by the health system and the resources available. All of these economic constraints have caused an inability to pay for salaries and cover the cost of drugs, supplies and capital investment.<sup>302</sup>

As mentioned earlier, various problems in the privatization process have emerged, and were

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298 Borowitz, M., Atun, R. (2006). The unfinished journey from Semashko to Bismarck: health reform in Central Asia from 1991 to 2006. *Central Asian Survey*, 25(4), December, 421

299 Ibid, p. 422

300 Parfitt, B. (2008). Health reform: the human resource challenges for Central Asian Commonwealth of Independence States (CIS) countries. *Collegian*, 16(1), 36

301 Borowitz, M., Atun, R. (2006). The unfinished journey from Semashko to Bismarck: health reform in Central Asia from 1991 to 2006. *Central Asian Survey*, 25(4), December, 423

302 Ibid

related to the lack of national control over licensing and professional standards, the illegal privatization of some health care facilities, unlawful profit-making and the misuse of privatized facilities.<sup>303</sup> Nevertheless, as mentioned before, the pharmaceuticals and medical supplies sub-sector, most dental care facilities and some general health facilities were successfully privatized.<sup>304</sup>

## 5.2. The transition period from 1991 to 2006:

In the second half of the 1990s, Kazakhstan underwent a series of health reform experiments in *health financing* (introduction of health insurance in 1996-98 aimed to transform the health system through strategic purchasing and raise extra-budgetary funding for health<sup>305</sup>, and revoking health insurance and program budgeting in 1999 due to declined health spending and numerous cases of corruption), optimization of *health facilities network* (mainly downsizing), and introduction of *primary health care* (PHC) (family medicine/general practice).<sup>306</sup>

The focus of the health reform, highly promoted by the international donors, was on a family model of primary health care with family doctors supported by family health nurses. The objective was to reverse the lack of trust by the population in the PHC and provide new services that enhanced both the skills and the knowledge of doctors and nurses<sup>307</sup> towards generalist provision. It was also aimed to provide effective primary health care services to population with

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303 Kulzhanov, M., Rechel, B. (2007). Kazakhstan: health system review. *Health systems in transition*, 9(7), 33

304 Ibragimov, A., Meimanaliev, A., & Veen, J. (2007). Policy assessment report: Kazakhstan (for the Central Asian TB control partnership). Project HOPE Central Asia & Campis International & USAID, 46

305 Borowitz, M., Atun, R. (2006). The unfinished journey from Semashko to Bismarck: health reform in Central Asia from 1991 to 2006. *Central Asian Survey*, 25(4), December, 431

306 Ibragimov, A., Meimanaliev, A., & Veen, J. (2007). Policy assessment report: Kazakhstan (for the Central Asian TB control partnership). *Project HOPE Central Asia & Campis International & USAID*, 46

307 The Soviet health care system has left Kazakhstan with of a large workforce with poor levels of competence and outdated approaches to providing primary and community health care along with a crumbling infrastructure

improved facilities and infrastructure.<sup>308</sup>

Throughout this period, Kazakhstan moved back and forth on health reforms without a somewhat clear direction and lacked continuity in leadership and implementation, as well as necessary political, financial and information support. At the same time, the health community perceived these endeavors ambivalently.<sup>309</sup> They ended up unsuccessful or were suspended (Akanov 2005). There was a need, therefore, for *a unifying comprehensive program at the national level*, to combine a complex vision of the health system and strategic priority areas for its development.

Only in 1998, following a Decree of the President “On priority measures to improve health status of the citizens of Kazakhstan”, the government has developed a state program “Health of the Nation” that defined main health reform areas for 1998-2008. Although not fully implemented, together with the Concept of Further Health Care Development in Kazakhstan in 2000-2005, this Program established a direction and conceptual framework for further health sector reform and development.<sup>310</sup>

Between 2001 and 2004, the environment was not supportive of further health reform. The rolled-back PHC reform and decentralization of funding to the regional (oblast) level seriously challenged health reform implementation. It was the Government of Kazakhstan itself and the newly established Ministry of Economy and Budget Planning that initiated a new phase of health reform. The Government planned to substantially increase the health budget and pressured the health sector to reform itself in order to more efficiently invest the increased budget.<sup>311</sup>

Review and analysis of the health reform experiences of the 1990s led to the development of

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308 Parfitt, B. (2008). Health reform: the human resource challenges for Central Asian Commonwealth of Independence States (CIS) countries. *Collegian*, 16(1), 36

309 Borowitz, M., Atun, R. (2006). The unfinished journey from Semashko to Bismarck: health reform in Central Asia from 1991 to 2006. *Central Asian Survey*, 25(4), December, 423

310 Ibid

311 Kulzhanov, M., Rechel, B. (2007). Kazakhstan: health system review. *Health systems in transition*, 9(7), 111

the National Program of Health Sector Reform and Development in the Republic of Kazakhstan for 2005-2010 that broke a new era of health sector development.<sup>312</sup> The National Program has among its main goals the introduction of an “effective health care delivery system based on the principles of joint responsibility of the state and the population, creation of a new health management model supported by an integrated health information system, as well as priority development of PHC aimed at improving the health status of the population”.<sup>313</sup>

The desire to move away from the communist past and a wish to converge with Western health care models (promoted by international donors) has led to the implementation of numerous reforms in the health care sector of Kazakhstan. This wish to reform the health sector suggests the presence of a greater idea, which is to develop and make functional all necessary prerequisites/conditions for a desired transition to a stable market. In other words, the intention to reform the current health care system to a more cost-effective and responsive market-oriented health care system has also presumably a bigger objective, which is to transition to a well-developed and stable market economy.

Reforms being implemented, at the same time, are aimed, among some, to improve working conditions of health professionals through initiatives to increase their salaries, as well as to advance levels of their competence by conducting professional development trainings. They are, however, not as successful in reducing health personnel from switching sectors of employment or retaining health care professionals in the national system due to various factors discussed below.

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312 Ibragimov, A., Meimanaliev, A., & Veen, J. (2007). Policy assessment report: Kazakhstan (for the Central Asian TB control partnership). *Project HOPE Central Asia & Campis International & USAID*, p. 46

313 Ibid

### 5.3. Funding of health care sector in Kazakhstan:

Economic collapse followed after the disintegration of the Soviet Union resulted in a dramatic decrease of GDP in Kazakhstan. Reduction of health system financing was even greater, where health care expenditures have dropped from 6% in 1991 to 1.9% of GDP in 1996. Health authorities looked for cost effective models, when international experts have proposed new approaches and health care reforms. Reduction of hospital and specialty care, and simultaneous primary care development became a cornerstone of health care development in all national programs, concepts, and government decrees in the country.

In addition, an idea of social health insurance became popular and highly promoted leading to a creation of a special insurance fund in early 90-s. First time in the history of the country, health service provider was independent from health services' purchaser. Mandatory Health Insurance Fund (MHIF) has collected taxes (up to 3%) from employers, where local government execution entities (akimats) had to pay to MHIF for children, pensioners, unemployed citizens, and other non-working populations.

MHIF played a very positive role in health care reforms' implementation in Kazakhstan. Provider/payer relations became clearer, more services were provided since there were greater financial allocations received by health facilities. Many hospitals reduced number of beds and gave up extra buildings voluntarily. Health financing became more transparent and predictable than ever before. Such terms as a business plan, health provider and purchaser, as well as service cost, cost effectiveness, per capita payment in primary health care (PHC), and clinical-statistical groups for hospitals were introduced and used in the health system. Health managers became more market and client oriented. MHIF rapidly became strong political key player in the country, which has also led to tensions with the Ministry of Health.

At the same time, local governments did not follow the rules and did not provide necessary resources or allocated the amount they were supposed to cover health care costs for non-working population the MHIF. Working population, at the same time, has mostly covered health sector expenditures, and health under-financing has continued.

In late 1998 after 1 year of piloting and 2 years of existence, MHIF was transformed to the Health Control Committee where health financing returned to the local (region/city) governments. Local governments decided to keep old infrastructure, which was only enough to cover salaries. Ministry of Health had federal budget allocated to the medical education, research, and republican hospitals/centers.

In 2005-2010 federal part of the health financing was increased. Ministry of Health started to build new hospitals (cardiology, emergency care, and National Centers in new capital Astana) and outpatient facilities. Some money was allocated for retraining of public health care providers. Equipment and medications were purchased centrally and distributed by the Ministry of Health.

In 2009-2011 the Ministry of Health persuaded federal government to increase centralization of the health care budget. So-called Unifying National System was implemented rapidly. In 2009 hospital sector budget started to be collected at the federal level, and in 2010 – primary care budget has concentrated in one place.

New health information system (HIS) without piloting was introduced in January 2010. All hospitals including rural ones had to report each hospitalization case to the HIS. Doctors had to calculate each half of prescribed tablet given to a patient and report on it to the system. Old health protocols and standards (developed in 2002-2003) were returned to use.

In January 2011 Ministry of Health forced public health care workers to record data of all

enrolled populations into the national database (electronically) by allocating only 3 month to complete the task. HIS was not capable of responding to requests by health professionals from all over the country trying to enter data to the system. Physicians ended up working over time (at night mainly) in order to get access to HIS database when it was accessible.

All health facilities are financially covered from the federal budget now. One of the positive innovations in health funding was introduction of a new two-component per capita payment system. Public health care doctors and nurses have received a stimulating component as additional salary, which was first time in the history, but this salary increase also produced more control coming from monitoring organizations/agencies.

Health workers in each health facility are being reviewed and evaluated by numerous control agencies such as Health Control Committee, Health Departments, public procurator's offices, Chamber of Accounts, Tax Committee, etc. Prosecutors look through patient charts to find mistakes and deviations made by physicians from existing standards and protocols.

At the same time, as of April of 2009, it is suggested that the Government of Kazakhstan owes public-sector workers 40 mln USD in wage arrears.<sup>314</sup> Those waiting for payment include rank-and-file social workers, teachers and doctors. The current resource allocation mechanism, thus, increases inefficiency of the health system where cases with wage arrears further contribute to losses of health professionals by the national health system to its opponents – private or non-profit health sectors – where wage arrears are not as common.

According to the official information from the Agency of Statistics of the Republic of Kazakhstan, which has produced a report on labor compensations in its annual statistical digest for 2010, a difference between average monthly nominal salary of physicians in the public health care

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314 Retrieved February 2, 2010, from: <http://www.eurasianet.org/departments/news/articles/eav042109a.shtml>

sector compared to their counterparts in the private one was consistent throughout 2005 to 2009 (available data) and amounted in approximate range between 2 500 – 3 800 tenge in difference, with highest difference amounting to approximately 8 000 tenge in 2008, or around 50 USD (see Table 1).

As a result, the recent developments with financing of the health care sector suggest that unless the situation with wage arrears to health personnel is resolved in the nearest future (along with other cases of inadequate funding and underinvestment in the health sector) as well as insured from occurring again, the national health system is not protected from losing its health professionals to private or non-profit health sectors.

Moreover, all of these factors - rapid and not piloted reforms, weak health information systems, poor management, increasing penalty system and external control - result in the growth of the human resources crisis or physicians' switching from the national health care system to the private one or to any other employments opportunities with less issues involved.

#### **5.4. Distinctive features of the health care reforms' introduction and implementation in Kazakhstan:**

It is important to mention that all of the implemented health care reforms in the country were initiated through the top-down approach with the Ministry of Health orchestrating the sector's reformation. Health care professionals, at the same time, were left from reforms' design and execution process and were informed about yet another reform as it was put in force. There is, thus, this lack of engagement and feeling of ownership among health personnel in the country in regard to the reforms' process that reduce a probability for reforms to be feasible or sustainable.

There is also a great level of uncertainty that is common for transitioning countries like Kazakhstan, where a vision for health sector development is modified by the government based on various factors – available funding, outbreak of a certain disease and a need to react to a situation by introducing more reforms<sup>315</sup>, or by further identified priorities for country's development. All these factors, in turn, contribute to one of the outcomes, which is the inability of the national health system to retain health care professionals. Such inability to retain health professionals in public health sector results in switches to private or non-profit sectors that are perceived to provide health personnel with more benefits and opportunities.

## 5.5. Summary:

Among some of the basis for understanding the occurrence of sector switching in the uncertainty context of the transition economy like Kazakhstan is the fact that reforms undertaken by the national government to address health care sector's issues were not as effective as originally envisioned. Numerous reforms and their developments appear to instead increase a level of perceived uncertainty of the national system. Moreover, the efforts to improve the health care sector's situation result in health personnel switching to private or non-profit sectors of employment.

As suggested earlier, the feasibility and sustainability of reforms introduced rely heavily on the level of 'buy-in' and well-being of health sector personnel at all levels,<sup>316</sup> where the content of the reform and how it is communicated determine whether and how health professionals choose to

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315 As HIV/AIDS outbreak in Shymkent, Southern Kazakhstan, in August of 2006 where more than 100 children under the age of 3 years old and mothers were diagnosed with HIV infection as a result of a negligent behavior and unprofessionalism of medical personnel

316 Fritzen, S. (2007). Strategic management of the health workforce in developing countries: what have we learned? *Human resources for health*, 5(4), 2

support or oppose to their realization. In the case of Kazakhstan, however, the implemented health care reforms were initiated through the top-down approach, thus, excluding health care professionals from the process of reforms' design and execution.

As a result, the lack of engagement and feeling of ownership among health personnel in the country in regard to the reforms' process reduce reforms' probability to be feasible or sustainable. Moreover, an overall great level of uncertainty that is common for transitioning countries like Kazakhstan further leads to sector switching since health professionals look for greater benefits (compensations) and opportunities in other sectors of employment.

## CHAPTER VI

### 6.0. SURVEY METHODS:

To address the question: why health care professionals in Kazakhstan switch from the public sector to similar jobs in the private or nonprofit sectors - which frames this research, the study implemented surveys to collect data for this research.

Results from this study are suggested to have important implications for Kazakhstan's national health and economic policies while also informing our understanding of public management and transitions to market economies.

The following overview of the research design & methods is provided to suggest how the research of the health care professionals in Kazakhstan and influence of economic and behavioral factors when it comes to their sector switching was designed. It includes information on research settings, data collection and pre-testing of questionnaires, response rate and population sample description, an argument for using surveys and a description of surveys designed for this study, and information on key variables.

#### 6.1. Overview:

In order to assess the possibility of physicians switching from one sector of the health care to another, a printed questionnaire survey was distributed among practicing physicians from public and private health institutions of Kazakhstan, requesting them to respond and fill out questionnaires (see Appendix A). The results from participating institutions were manually inputted into the Excel

database.

A questionnaire survey was chosen as the primary method to collect data, since the most widely used source for obtaining Kazakhstan related data is a rather generalized data collected by the Agency of Statistics of the Republic of Kazakhstan covering such broad health care aspects as death-roll in case of accidents, connected with labor activity; material consequences of accidents; number of hospital beds; number of hospitals, number of physicians and paramedical personnel; sickness rate of population, and number of victims in case of accidents, connected with labor activity. The data available at the Agency's website does not provide needed for this research information or cover issues raised by this study.

Survey research, on the other hand, facilitates distribution to large numbers of respondents - physicians in our case - and it is advantageous to identify the attributes of a large population from a small group of individuals participated in the research (Babbie, 1990; Fowler, 2002). In other words, it enables large amounts of information from many respondents to quickly be gathered at little cost, considering the overall lack of data from Kazakhstan that is available for research. It is better for sensitive and personal topics, since we can guarantee confidentiality and anonymity to respondents and responses cannot be traced back to specific individuals.<sup>317</sup> They provide measures at the individual level, which help us better understand individuals' opinion, attitudes, and behavior.<sup>318</sup> At the same time, we can actually address multiple topics in one survey.<sup>319</sup>

Questionnaire surveys are also high in external validity from representative sample, and it is easier to replicate a study when using surveys.<sup>320</sup> Overall, surveys are suitable for probability sampling and more accurate generalizations, because they are advantageous to identify the attributes

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317 Nardi, P. (2006). *Doing survey research: a guide to quantitative methods*. Pearson Education, Inc. Second edition, 18

318 Ibid

319 Ibid

320 Merolla, J. (2008). *Political Science: Survey Research presentation*. The nature of inquiry course, CGU, December

of a large population from a small group of individuals.<sup>321</sup> Moreover, the purpose of survey research is to make inferences about some characteristic, attitude, or behavior of a specific population (Babbie, 1990), which is one of the main objectives of this research – to find out what factors influence physicians in transition economies like Kazakhstan to switch sector of their employment or continue working and being employed by their current one.

There are, however, some issues with the survey research that need to be considered. Surveys are unable to reach a broad sample and there is a problem of non-response (occurs if preferences of those who refuse to respond are different from those who respond).<sup>322</sup> It is unstable over time, since people's responses fluctuate greatly over time.<sup>323</sup> There could be varying reaction to context of question, order in which alternatives are presented, and trivial alterations in questions.<sup>324</sup> There is also a need to be cautious about question-wording effects when change in substantive wording can lead to major shifts in responses received.<sup>325</sup> In relation to one-time-use questionnaires, it is more difficult to generate reliability and validity in those situations.<sup>326</sup>

The research considers all of the advantages and disadvantages of the survey research and is cautious about problems that are common for survey research, especially one of the most serious ones that survey responses do not necessarily represent what the public truly believes about research questions under consideration.<sup>327</sup>

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321 Ibid

322 Ibid

323 Ibid

324 Ibid

325 Ibid

326 Nardi, P. (2006). *Doing survey research: a guide to quantitative methods*. Pearson Education, Inc. Second edition, 18

327 Ibid

## 6.2. Research settings:

The data supporting this study comes from a unique data set I developed. In particular, I have survey data from 1086 health care professionals (practicing physicians working in the public and in the private health care sector) working in nine regions of Kazakhstan. The data includes information about individual incentives for and perceptions of sector switching given perceived risks and uncertainties of an economic transition that the country is going through. The survey is designed based on knowledge of local conditions in the country and prior research in the field of sector switching.

The survey was developed during the fall of 2010 and implemented during the spring of 2011. The survey is translated into Russian, since it is a co-official and widely used language in the country (see Appendix A).

The population of the survey consists of two main groups, practicing physicians working in public health care institutions and physicians working in private health institutions in Kazakhstan. This is a total population of approximately 1500 practicing physicians throughout nine regions of Kazakhstan targeted for this research, although only 1086 physicians filled out and returned surveys back.

To determine the dynamics of sector switching behavior in transitional economies a survey was developed and distributed among public and private health care institutions in nine regions of Kazakhstan (including Almaty, Astana, Atyrau, Karaganda, Kokshetau, Shymkent, Semey, Zheskazgan and Ust-Kamenogorst). By using available networks, emails, and list-serves of health public agencies, hospitals, medical universities, private clinics, non-profits, pharmaceutical companies, surveys accompanied by a cover letter and a consent letter were distributed among practicing physicians.

The survey consists of eight major sections:

- The first section, asks respondents to provide information regarding their *current job, work experience and probability of finding a new job or switching sectors of employment*;
- The second section, asks respondents about their opinion on *conditions of the health care sector in Kazakhstan* and about diminishing *quality of health care infrastructure* and lack of *investments* made to the sector;
- The third section, asks respondents about *health care reforms* implemented by the Ministry of Health in Kazakhstan;
- The fourth section, asks respondents about *formal compensations* they receive for working in the health care sector;
- The fifth section, asks respondents about *informal payments* that health care professionals receive from their patients;
- The sixth section is a set of questions about *risk perceptions* and *the likelihood of health care physicians engaging in each of the activities/ behaviors* being asked;
- The seventh section, asks respondents about *migration* and whether they have even considered the idea of immigrating from Kazakhstan to Russia or to any other country, and
- The eighth section, asks respondents to provide *demographic* and *background information* (for example, age, gender, years of experience).

Surveys were anonymous. To reduce the risk of easily identifying any particular respondent, enough variation in population of respondents was created both when assigning each individual identification number to a returned survey and when asking the actual questions in the questionnaires.

Upon receiving questionnaires back, each survey was given a respondent identification number (from 1 to 1086), a specific numerical number identifying a region where each particular questionnaire was received from (from 1 to 9), a number referring to whether survey was received from a public or a private health institution (from 1 or 2), and a number given to each participating in the research organization (specific hospital or clinic) (from 1 to 12).

The cost of printing out each survey and accompanying forms was approximately \$3.00. There were three items that were distributed among respondents: 1) cover letter; 2) survey; and 3) a consent letter to participate in a survey.

At the end of five-week week period, a total of 890 responses was received, which is a 81.9% response rate. Follow-up phone calls were made to participating medical institutions in the regions as a reminder request to return the surveys. At the end of eight weeks, a total of 196 responses was received, which is a 18% response rate. The final response was 1086 or 72.4%.

Majority of questionnaires were received from public health care institutions – 740, the rest 346 were received from private health care institutions. Twenty-three health care institutions participated in the research. Among these institutions were eleven public health institutions:

Public health care institutions	
Almaty	<ul style="list-style-type: none"> <li>• Diagnostic center</li> <li>• City hospital #1</li> <li>• Emergency hospital</li> <li>• Clinic of Ministry of Internal Affairs</li> </ul>
Astana	There were <i>three</i> public

	hospitals participating in the research
Kokshetau	<i>One</i> public hospital
Semey	<i>One</i> public hospital
Karaganda	<i>One</i> public hospital
Atyrau	<i>One</i> public hospital

Among private institutions participating in the study were those mostly located in Almaty:

Private health care institutions	
Almaty	<ul style="list-style-type: none"> <li>• AruMED</li> <li>• ECO Center Fertilization</li> <li>• Karuzo pediatric center</li> <li>• Eurasia</li> <li>• Center for innovation medicine</li> <li>• Keruen Medicus</li> <li>• Dostarmed</li> <li>• Clinic of Doctor Mikhailov's</li> <li>• Center for Israeli medicine</li> </ul>
Semey	<i>One</i> private clinic
Ust-Kamenogorsk	<i>One</i> private clinic

Zheskazgan	<i>One</i> private clinic
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### 6.3. Data collection:

The questionnaire used for this research is cross-sectional, with the data collected at one point in time. To distribute the survey, representatives of Kazakhstan Association of Family Physicians (KAFP), which has expressed interest in the research and in assisting with distribution and collection of surveys in regions, has been asked to print out surveys and distribute them among public and private medical institutions and physicians working there.

The KAFP representatives were the contact people for respondents to return surveys to (without passing them to a third individual). Prior to distributing surveys, administration of participating hospitals was informed about the purpose of the study and asked to support the research by demonstrating to physicians that confidentiality of their responses is secure and not being jeopardized. Paper questionnaires were presented to physicians in each participating medical institution by the KAFP representatives, and the physicians took the questionnaire to complete on their own time and returned the questionnaire back to the KAFP representatives.

Twenty-three health care organizations (both public and private) participated in this research. The distribution among regions/cities was as follows:

Almaty	113 questionnaires were collected from public institutions
	106 from private ones
Astana	172 questionnaires were collected from public institutions

Atyrau	83 questionnaires were collected from public institutions
Karaganda	100 questionnaires were collected from public institutions
Kokshetau	106 questionnaires were collected from public institutions
Semey	70 questionnaires were collected from public institutions
	49 from private ones
Shymkent	47 questionnaires were collected from public institutions
Ust-Kamenogorsk	49 questionnaires were collected from public institutions
	46 from private ones
Zheskazgan	145 questionnaires were collected from private institutions

#### 6.4. Pre-testing of the questionnaire:

Prior to distributing surveys among respondents participating in the research, the questionnaires were pre-tested by asking three practicing physicians in Almaty to fill out the survey and comment on questions asked after completing it. The pre-test exercise was conducted to make sure that the questions were clear and easy to understand for respondents. The other objective of the pre-test exercise was to ensure that respondents were comfortable with the context of the questions. Some concern that was thought to be a potential issue for respondents was related to questions asking about informal compensations and payments suggested to be received by physicians from their patients.

The other matter which was suggested by physicians participating in a pre-test exercise to be of a controversial nature and possibly as the one to be ignored and not answered was related to health care reforms implemented by the Ministry of health in Kazakhstan. This could be explained by the fact that most of the health institutions in the country are entirely dependent on funding allocated to them from the Ministry of health, and thus, expected to support and follow reforms implemented by the Ministry. Similar concern was about questions related to the conditions of the health care sector in the country, since questions asked could have been thought as rather judgmental of the situation, implying that much more could have been done by the Ministry of health and the government of Kazakhstan in general to improve the situation of the health sector.

The idea for the pre-test exercise was also to see whether the process of filling out the survey is within the suggested 45-55 minutes time range (considering 1 to 1.5 minute per question).

The exercise of pre-testing suggested that participating physicians were clear on questions asked in the survey and comfortable answering all of the questions asked. They believed that the context of questions – the ones which were thoughts to be possibly sensitive to be answered – seemed to be contented with all the questions. Overall, pre-testing exercise participants were supportive of the research after completing surveys suggesting that the issues raised in the questionnaires were important and crucial. They were generally pleased with the objectives of the study and the fact that practicing physicians are being involved and asked for their opinion on the situation of the health sector in the country and are given an opportunity to comment and reflect on any of the topics covered by the questionnaire at the end of the survey in a form of an open-ended question where any observation of respondents was welcomed and highly appreciated.

Survey respondents were informed about voluntary and confidential nature of their participation in this research.

Qualitative responses were coded and all data inputted into STATA for interpretation and analysis.

### **6.5. Response rate:**

Overall, 1500 paper-version questionnaires were distributed to practicing physicians in public and private medical institutions among nine regions of Kazakhstan and 1086 respondents completed the questionnaire, yielding an overall response rate of 72.4%. Almaty has the highest response rate of the all regions participated in the research (see Table 10).

### **6.6. Population Sample Description:**

Overall, 1086 physicians responded to the questionnaire: 740 physicians working for public health care institutions and 346 from private health care institutions. The reason for receiving majority of the responses from practicing physicians in public health institutions is due to a general lack of private medical institutions in the country (compared to the majority of public institutions) and overall mistrust/suspicion of private health institutions as to what has initiated/motivated the current research.

1086 questionnaires were filled out and submitted. Questionnaires were received from 9 regions of Kazakhstan, including Almaty, Astana, Atyrau, Karaganda, Kokshetau, Shymkent, Semey, Zheskazgan and Ust-Kamenogorst.

Most of the respondents were women (see Table 2) in their 40<sup>th</sup> (see Table 3). Dominating ethnic group is kazakh (however depending on a region, the ethnic proportion differs, southern part

is mostly dominated by kazakhs, whereas northern part has a greater variation of representatives of different ethnic groups, those are – tatars, ukranians, polish, german, korean, belorussians, uygurs, jews, uzbeks, kyrgyz)) (see Table 4) who are married and have 2 children on average (see Table 5 and 6).

Most of respondents are graduates of medical schools class 1989 (which was during the period of the dissolution of Soviet Union) (see Table 7). Majority of respondents have highest qualification category (see Table 8). Some are candidates of medical science, and many have specialists' certificates (see Table 9).

In total, 1086 of respondents identify their gender, 832 females and 198 males. As mentioned earlier, more females than males responded to the questionnaire, 832 female physicians compared to 198 male physicians. 55 respondents left their gender answer choice blank.

The majority of the 1086 total respondents, 659, identify themselves as Kazakh. The most common ethnicity among physicians' population of 659 is Kazakh. Additionally, 269 respondents, identify themselves as Russian. This population sample contains few Tatars, Ukrainian, Polish, German, Korean, Belorussians, Uygurs, Jews, Uzbeks, and Kyrgyz respondents. Furthermore, 91 physicians report Other as their ethnicity without specifying their ethnic background, and 64 respondents did not provide any information on their ethnic background, leaving it blank.

A range of years of work experience in current work place exists among physicians, with 370 physicians with 0-5 years of work experience, 184 physicians with 6-10 years of work experience in current work place, 134 physicians with 11-15 years of experience, 112 physicians with 16-20 years of work experience, 83 physicians with 21-25 work experience in current work place, 144 with more than 25 years of experience, and 55 physicians who decline to state years of their work experience at current work place.

## 6.7. Questionnaires:

There are 37 questions in the survey with fifteen multiple choice questions; where four of the questions that were multiple choice ones included an “other” last choice option - an opportunity for respondents to write in answers. Question #37 asked respondents to talk about any of the topics covered by the questionnaire in the provided space. This was done to offer maximum flexibility to respondents in answering questions and opportunity to glean individual answers from respondents. Eight questions were in a form of fill-in-the blanks requesting unique answers from respondents.

Seven questions were Likert-scale designed to give a chance to respondents to choose the response that best represents to his or her opinion relative to a series of statements asked. They all have five choices coded numerically for statistical analysis, *strongly agree* (5), *somewhat agree* (4), *neither agree nor disagree* (3), *somewhat disagree* (2) and *strongly disagree* (1). Question #28 which asks respondents to indicate the likelihood of their engagement in each of the risk perception activity/behavior used a somewhat different set of Likert-scale answer choices which were *very likely* (5), *likely* (4), *not sure* (3), *unlikely* (2), and *very unlikely* (1). There were seven polar questions to receive positive or negative response from participants on particular question asked.

In addition to the demographic, and attitudinal questions in the questionnaire, respondents are asked to provide information about their recent career history (last three jobs, including the current one). This is done in order to collect information that is sufficient to cover the entire career history to date of the individuals studied. The questions about past jobs include start and end dates, the number of employees supervised, the type of job (supervising, professional, or technical), and the type of organization (government, private, nonprofit sector).

## 6.8. Key variables:

Overall, from the 37 total questions in the questionnaires, 17 were tested as key variables, the variables most relevant to sector switching among physicians in Kazakhstan. The following lists out the key variables and explains how they were coded for analysis.

1. Dependent variable (sector switching) - Health care professionals in their decisions to switch their job occupations – Two questions in the questionnaires - #6 and #7 – were used to test the sector switching intentions among participating physicians.
  - a. Question #6, which asks all in all, how likely is it that you will try to find a job with another organization within the next 12 months, was a multiple choice question with answer choices varying from *very likely* to *very unlikely*, which were coded as *very likely* (1), *likely* (2), *unlikely* (3), and *very unlikely* (4).
  - b. At the same time, question #7, which asks whether respondents would be interested in a possibility of switching from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector, was a polar question with *yes* and *no* answer choices, that were coded as *yes* (1) and *no* (2).
2. Independent variables (uncertainty) – Health care professionals in their understanding of a sector of their occupation as being a risky one to work in – Several questions in the questionnaires were used to test the uncertainty/risk perceptions among physicians.
  - a. A set of questions related to conditions of the health care sector in Kazakhstan – Questions #10, 11 and 12.
    - i. Question #10, which asks to indicate the degree to which respondents think the issues raised in the question were problems (if at all) in providing public medical services in the country. It was a Likert scale question with answer choices varying

from *strongly agree* (5), *somenbat agree* (4), *neither agree nor disagree* (3), *somenbat disagree* (2), and *strongly disagree* (1).

- ii. Question #11, which asked respondents whether condition of the health care system today, compared to previous year, *deteriorated greatly* (5), *somenbat deteriorated* (4), *at the same level as before* (3), *somenbat improved* (2), or *improved greatly* (1). The answer options' coding was reversed when analyzing data.
  - iii. Question #12, which asks respondents for their opinion who is making greater/more investment in health care sector among three possible investors – government, private sector and NGOs/international organizations. Respondents were asked to rank 1, 2, and 3 by writing down a number in provided next to answer options lines 1 referring to the highest investments made and 3 to the lowest ones. When coding available data, the answer options were reduced to 2, with government and private options.
- b. A set of questions related to health care reforms implemented by the Ministry of Health in Kazakhstan – Questions #13, 14, 15 and 16.
- i. Question #13, which asks physicians how familiar they are with the nature of health care reforms implemented by the Ministry of Health. The answer options were as follows and coded accordingly: *very familiar* (1), *familiar* (2), *somenbat familiar* (3), *not familiar* (4) and *not at all familiar* (5).
  - ii. Question #14, which asks whether respondents agree or not with reforms promoted and implemented by the Ministry of Health with answer choices being *strongly agree* (5), *agree* (4), *undecided* (3), *disagree* (2), and *strongly disagree* (1).
  - iii. Question #15, which asks whether respondents feel that the Ministry if implementing too many reforms and answer choices – *strongly agree* (1), *agree* (2),

*undecided* (3), *disagree* (4), and *strongly disagree* (5). The answer options' coding was reversed when analyzing data.

- iv. Question #16, asks whether physicians as people who are working in the health care sector should be greater involved and asked by the Ministry of Health for their opinion in relation to the reforms and ways of their implementation in the country. Answer choices are – strongly agree (5), agree (4), undecided (3), disagree (2), and strongly disagree (1).
- c. A set of questions related to physicians salary & benefits – Questions #18, 24.
  - i. Question #18, which asks physicians about their current salary, and is being coded as a numerical number provided by each respondent
  - ii. Question #24, which asks respondents whether they agree with suggested statements about their salary, and coded as *strongly agree* (5), *somenwhat agree* (4), *neither agree nor disagree* (3), *somenwhat disagree* (2), and *strongly disagree* (1).
- d. A set of questions related to risk perception and likelihood of physicians' engagement in each of the suggested activities or behaviors – Question #28 – with answer choices being *very likely* (1), *likely* (2), *not sure* (3), *unlikely* (4), *very unlikely* (5).

## CHAPTER VII

### 7.0. DATA ANALYSIS:

In order to analyze the research question and test the hypotheses several statistical methodologies are run using the dataset. Research question asks the following:

Why health care professionals in Kazakhstan switch from the public sector to similar jobs in the private or nonprofit sectors?

To determine what variables are the strongest predictors of the respondents' potential sector switching behavior in an environment of the health care sector perceived by them as risky, ordinary least squares (OLS) and logistic regressions are run on two dependent variables: physicians' inclinations to find a job with another organization within the 12 month and odds for physicians to switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector.

The selection of these two types of analyses is statistically sound considering the fact that this research has both types of dependent variables. The difference between OLS and logistic regression methods has to deal with how dependent variable (DV) is measured. OLS assumes that the DV is continuous and normally distributed. Logistic is used as an alternative to OLS when the DV is binary or not continuous (i.e., it has two categories without normal distribution). According to Pohlmann and Leitner (2003), it is important to use logistic regressions since results give more accurate predictions of probabilities on the dependent outcomes.<sup>328</sup>

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328 Pohlmann, L., Leitner, D. (2003). A comparison of ordinary least squares and logistic regression. *Ohio Journal of Science* 103 (5), p. 118

### **7.1. Preliminary work with raw data:**

To manipulate the data when it was first entered from Excel into STATA, I first used number of commands to handle non-real values issues, which raised by the fact that when entering data into Excel from paper-version questionnaires there were some minor typos made while coding answers. These typos were occurring since there was a large number of returned questionnaires with answers to 37 questions and each comprising of a number of sub-questions. It was necessary to go through each individual respondent's questionnaire (by looking at respondent identification number) to replace the typos made to a correct answer choice (when looking at actual answers in paper-version questionnaires) in STATA.

In order to analyze the data correctly, one other step in manipulating the data was to change 9s (which were used in Excel when coding missing answers) to missing values in STATA, since STATA might assume 9s as actual 9s, rather than missing data. When coding a yes-no polar questions, the coding used in Excel (yes=1 and no=2) needed to be recoded in STATA into yes=0 and no=1, which is a standard procedure for coding categorical variables. Some of the variables needed to be reverse coded to make the interpretation of results easier and intuitive/logical to present.

Questions that tab to a particular construct, were combined to one variable. Cronbach's Alpha test for statistical reliability was also computed for scale questions to examine statistical reliability of the average correlation of items (sub-questions) within the consistency of scales. Mean replacement technique to reproduce means was also used to make sure that number of observations is maximized throughout all of the tests done for the research (Schafer, J, 1997).

To allow to test how levels of one variable affects the relationship between our dependent and independent variables, I also created interaction term (which is a product of two predictor

variables of interest) for the analysis which were age of physicians who have participated in the study and their opinion on set of suggested factors (some personal, family and professional) to be important in making their decision to take a job at their current organizations. Specifically, the interaction term allowed seeing how age and opinion of factors differ for younger (age 25-45), mid-age (45-60) and older physicians (60 and older) (see Graph 1).

## **7.2. Descriptive statistics:**

One of the first steps in interpreting the dataset is to analyze the descriptive statistics for key variables by using the mean commands. In order to receive percentage of respondents who selected a specific answer to issues raised in the research the frequency distribution was calculated. The mean ( $M$ ) and standard deviation ( $SD$ ) were identified to analyze the central tendencies for the key variables (see Table 11). For categorical variables the  $M$  corresponds to % (percentage).

## **7.3. Overall regression results by research hypotheses:**

Two dependent variables - a likelihood of finding a job with another organization within the next 12 month and odds of switching from current job to a new job/activity suggested to be more interesting and fulfilling - are tested through OLS and Logistic regressions to determine which of independent variables their strongest predictors.

After running OLS and logistic regressions the results of the empirical analysis suggest the strong support for the proposed hypotheses for this research.

### 7.3.1. Hypothesis 1:

To test hypothesis 1 that is evaluating condition of health care infrastructure (diminishing or not compared to earlier years) and volume of investments made (less or more compared with other investors) into the sector, and states that:

As the perception of conditions of health care infrastructure and the volume of investments made in health care sector diminishes (as perceived by health care professionals and compared to previous years and other sectors), perception of uncertainty within that particular sector (public, private or non-profit) increases among health care professionals leading to a likelihood of sector switching.

Given what we know of the state of affairs with respect to the infrastructure and investment patterns in the country, the results suggest that:

An independent variable – the condition of the health care system today compared to the end of 1990-early 2000 (which initiated series of reforms in the health care sector of Kazakhstan) – was representing health care infrastructure variable in the data analysis with *cnthctoday2* where respondents' answers ranged from *it has deteriorated greatly* to *it has improved greatly*.

As seen in the results' table (see Table 13), *cnthctoday2* has statistically significant positive effect (for 95% C.I) on respondents' inclination to find a job with another organization within the 12 month, thus supporting the hypothesis and suggesting that the greater the opinion of respondents that the condition of the health care system has substantially deteriorated in comparison with earlier years, the greater they are inclined to find a job with another organization within the 12 month.

At the same time, *cnhdhctoday2* is not statistically significant in Logistic models that are reflecting on respondents' odds to switching from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector.

### 7.3.2. Hypothesis 2:

To test hypothesis 2, that is evaluating quality of health care reforms initiated and implemented by the Ministry of Health in the country (too many or about right), and states that:

As the perception of quality of health care reforms declines, (as perceived by health care professionals and compared to other sectors in relation to health care reforms imposed by the government), perception of uncertainty in health care sector increases among health care professionals thus leading to a likelihood of sector switching.

Given what we know of the state of affairs with respect to health care reforms, the results suggest that:

An independent variable – whether the Ministry of Health is implementing too many reforms – was representing health care sector reforms variable in the data analysis with *minhctoomanyreform* where respondents' answers ranged from *strongly disagree* to *strongly agree*.

As seen in the results' table (see Table 13), *minhctoomanyreform* has a statistically significant negative effect on respondents' inclination to find a job with another organization within the 12 month, suggesting that the more respondents agree with the statement that the Ministry of Health is implementing too many reforms, the less likely they are inclined to find a job with another organization within the 12 month.

Thus, increased number of reforms implemented by the Ministry could be suggested to be having two effects on practicing physicians in Kazakhstan. For those who have an inclination to find a job with another organization within the 12 month, the large number of implemented reforms creates a barrier to do so. Those physicians, however, who did not have any inclination to find a job with another organization within the 12 month have in some way received stability of their current employment sector with an increased number of reforms that are further reforming the sector.

At the same time, *minbctoomanyreform* is not statistically significant in Logistic models that are reflecting respondents' odds to switching from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector.

One other variable, which is reflecting on health care reforms is – whether physicians should be greater involved and asked by the Ministry of Health for their opinion in relation to the reforms and ways of their implementation in the country - with *phymoreinvolvinbc* where respondents' answers ranged from *strongly agree* to *strongly disagree*.

It is statistically significant in the Logistic model, which is reflecting on private health care physicians' opinion on issues being discussed in this research<sup>329</sup>, including their feedback on situation with health care reforms. In particular, in relation to *phymoreinvolvinbc*, private health care physicians have identified the importance of this variable more than their counterparts in public health care sector.

In other words, results suggest that private health care physicians' agreement with a suggestion which proposes that physicians should be greater involved and asked by the Ministry of Health for their opinion in relation to the reforms and ways of their implementation in the country

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<sup>329</sup> See Table 12 for descriptive statistics presented separately for public and for private health care professionals

has a statistically significant negative effect on respondents' inclination to switch from their current job to a new job/activity.

### 7.3.3 Hypothesis 3:

To test hypothesis 3, that is evaluating quantity of salary, which physicians' receive for their work and affect their decisions in relation to sector switching, and states that:

The greater physicians are dissatisfied with the combination of salary & benefits that they are compensated with (compared to others with similar education and qualification), the more likely they are to switch sector of their employment.

Given what we know of the state of affairs with respect to salary, the results suggest that:

A set of independent variables – respondents' current salary, and statement that respondents' salary is significantly lower than medical doctors of the same qualification receive in a different sector (public or private) – were represented by *currshly* and *sttmntonslrya*, and ranged from *strongly agree* to *strongly disagree*, as well as another statement that in general respondents' salary does not comply with the level of their education and experience – represented by *sttmntonslryb*, and ranged from *strongly agree* to *strongly disagree* - represented salary variable in the data analysis.

It was earlier suggested that in well-established markets, sector switching might easily be explained by higher salaries in the private sector. However, similar tendency is occurring in countries with transition economies like Kazakhstan. As seen in the results' table (see Table 13), *sttmntonslrya* is statistically significant and has positive effect in the OLS model suggesting that overall agreement of respondents with this statement leads to respondents' inclination to find a job with another organization within the 12 month.

At the same time, *currsly* has a negative effect in the OLS model suggesting that every 10000 tenge increase in respondents' current salary scale leads to a decrease in or reduction in their inclination to switch from their current job to a new job/activity. Such outcome could be explained by the fact that respondents' higher salary compared to other physicians is an important factor in their decision to continue working at their current organization.

In the Logistic model, the second independent variable - in general, my salary does not comply with the level of my education and experience (*sttmntonslyb*) – is statistically significant and has a positive effect suggesting that respondents' agreement with a statement that in general their salary does not comply with the level of their education and experience corresponds to an increase in the odds of physicians switching from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector.

These findings suggest that there are two outcomes of the study related to the level of compensation physicians receive for doing their job. One outcome proposes that respondents place a great value on an absolute measure of their salary being received for the work they do – the actual amount of money, its numerical value. Another outcome demonstrates that respondents assess their salary in relation to its relative value, comparing to what other physicians are compensated with. In other words, respondents' opinion on a level of compensation that they should be provided with affects their economic decisions and an overall judgment on whether payment made to them is appropriate to their qualifications, experience and expectations.

Keeping these observations on physicians' salary in mind and recollecting what was earlier suggested that in well-established markets sector switching might be easily explained by higher salaries in the private sector, the results of this research suggest that similar tendency is occurring in countries with transition economies like Kazakhstan.

As seen in the results' table (see Table 13), relative value of respondents' salary or *sttmntonslrya* is statistically significant and has positive effect in the OLS model suggesting that overall agreement of respondents with this statement leads to respondents' inclination to find a job with another organization within the 12 month. At the same time, absolute salary value matters where *currslry* has a negative effect in the OLS model suggesting that every 10000 tenge increase in respondents' current salary scale leads to a decrease in or reduction in their inclination to switch from their current job to a new job/activity. Such outcome could be explained by the fact that respondents' higher salary compared to other physicians is an important factor in their decision to continue working at their current organization.

In the Logistic model, the second independent variable - in general, my salary does not comply with the level of my education and experience (*sttmntonslryb*) – is statistically significant and has a positive effect suggesting that respondents' agreement with a statement that in general their salary does not comply with the level of their education and experience corresponds to an increase in the odds of physicians switching from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector.

As can be seen, *the real cycle business theory*, discussed in greater detail earlier, is somewhat being supported by the results of the data analysis and suggests that physicians do seek rewards for the work performed and are able to distinguish which of the sectors might provide them with more rewards, which could lead to their decision to switch sector of their employment.

#### 7.3.4. Hypothesis 4:

To test hypothesis 4, that is evaluating quality of job and physicians' satisfaction with their job, and states that:

The greater physicians are dissatisfied with their job (job satisfaction), the more likely they are to switch sector of their employment.

Given what we know of the state of affairs with respect to the job satisfaction, the results suggest that:

Job satisfaction variable is represented by two variables in the data set – a set of comments about respondents' current job and their overall dissatisfaction with their current job situation (*commentsjb*), with respondents' answers ranging from *strongly agree* to *strongly disagree*. The other variable is *problems* (if at all) in providing public medical services in the country, with respondents' answers ranging from *strongly agree* to *strongly disagree*.

Results suggest that an overall physicians' increased job dissatisfaction leads to the strong inclination for them to find a job with another organization within the 12 month. In other words, increase in respondents' job dissatisfaction reflection scale has a statistically significant effect (for 95% C.I.) and leads to an increase in physicians' inclination to find a job with another organization within the 12 month, which is suggested in OLS models.

Moreover, Logistic models, which were testing private health care physicians' opinion on issues raised in the research revealed respondents' agreement with a combination of problems suggested to limit provision of quality medical services in the public health sector. The results are statistically significant (for 95% C.I.) with a positive effect leading to the greater odds for private

health care physicians to switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector.

Adam's *equity theory*'s behavioral pattern, expressed here by leaving the field, in order to reduce perceived inequality, is demonstrated to be the case for public health care physicians. Such form of behavior is therefore common in the case of the individuals studied.

#### **7.4. Free Response (Open-ended question #37)**

The free response question is thematically analyzed to reflect on physicians' insights on the importance of factors influencing their possible sector switching behavior and their general opinion on health care sector's current situation in the country. Of the 1086 total respondents, 105 physicians or around 10% of the total population has chosen to answer the free-response or an open-ended question at the end of the questionnaire, questions 37. The question 37 asked –

Is there anything else that you would like to tell us about any of the topics covered by this questionnaire, please do so in the space provided below

Overall, among some of the concerns, which were mentioned by physicians, were that they are required to fill out a lot of paperwork, and are being swamped by these requirements coming from numerous regulatory government agencies. At the same time, their salary is insufficient; it is not enough to exist without being in debt (one of the comments made by a respondent). Physicians were also suggesting that patients are asking too much from physicians, and physicians are being blamed for the poor quality health care services provided and do not feel protected (legally) from accusations against them.

#### 7.4.1. Thematic Analysis:

##### *Salary:*

The most common theme for both public and private health care physicians mentioned in their comments in the free response question was related to their *salary* and it being insufficient leading to sector switching behavior and a loss of health care professionals to other sectors. At the same time, almost all of the respondents who have contributed to the free-response question have asked to increase their salaries.

Some of the physicians' suggestions were also to increase the quality of work of physicians and number of *benefits* (as medical insurance, improved pension system, bonuses, social care/protection packages) that physicians should receive for their work.

##### *Condition of public health care sector:*

Among some of the comments to reflect on condition of public health care sector in the country are the ones suggesting that the health care system is more commercialized now aimed at getting as much money as possible from patients. In most cases, patients are not provided with information that health services are free of charge, thus making patients pay for care, which is supposed to be provided to them for free. Therefore, the focus is being made on getting paid, rather than on providing quality health care services or being professional (in terms of having enough qualifications) to treat patients. For example:

For the sake of improving their health, patients are ready to give everything (in relation to paying as much as suggested by physician); many physicians including oncologists take advantage of this even being aware that patient has no chances of surviving. This is our reality! - Physicians

It was also suggested that there is a need to implement the principles of evidence-based medicine in the country.

*Reforms introduced and implemented by the Ministry of Health:*

Respondents have provided many comments related to the introduction and implementation of reforms by the Ministry of Health in the country. Among some of them are the ones to suggest that there are too many orders and regulations that are being issued constantly, but disregarded even faster and replaced by yet another order or regulation. Therefore, it is impossible to get familiar with them, understand and/or consider as important ones, since everyone knows that current orders or regulations would be replaced soon with yet another set.

Some of the examples of the comments of physicians in relation to health care reforms are:

I don't like the reforms of the public health care system, which are done by using funds that were supposed to be allocated for physicians' salaries – Physician

I was promised to receive an apartment through the reforms implemented by the Ministry, but it never happened – Physician

There are many duplicating protocols (e.g., protocol related to blood products' transfusion, transfusion of erythrocytes, freshly frozen plasma, etc.) that are required to be also copied in patients' records. Sometimes we are supposed to transfuse erythrocytes up to 30 times. Though physician's primary responsibility is to deal with patients, not papers. At the same time, reforms are implemented without basic resource preparations and often being revised, requirements do not reflect the reality/opportunities of current situation, often personnel is being lost (due to financial and other problems within the health care sector) – Physician

There are non-stop audits from the Ministry of Health and other controlling institutions – Physician

While reforming health care system, the positive aspects of Soviet health care should be retained – Physician

*Physicians' involvement with reforms implemented by the Ministry of Health and decisions made:*

It is overall suggested that there is a lack of physicians' involvement with reforms' initiation and implementation in the country. Physicians' observations in this regard are that:

Practicing physicians are not asked for their opinion when decisions are being made - or physicians are afraid of being punished if they ask for something – Physician

To improve the quality of health care, experience and knowledge of older generations (retired or pre-retired) should be better utilized – Physician

*Condition of workplace:*

Respondents suggest that there is a general lack of equipment and, at the same time, there is a need to have modern technology/equipment available at public medical institutions. In addition, a focus should be made on reducing a volume of paperwork that is required from physicians:

Reduce a number of paperwork required which takes 95% of my time and leaves only 5% to treat patients – Physician

Decrease the number of reporting forms. Delete duplicating reports, leaving only the most informative and effective ones – Physician

*Corruption:*

Physicians were expressing their frustration with corruption and were commenting, for example:

Corruption should be eradicated at the top levels of the health care sector – Physician

Corruption is the most disturbing factor - managers at various levels immediately and always practice extortions of resources for their personal use – Physician

*Image of physicians:*

Even though image of physicians was not raised at questionnaires, physicians have commented on an importance of improving image of being a physician, for example:

Prestige of being a physician or social status of being a doctor should be improved – Physician

I am not happy with mass media, which is often accusing physicians for doing bad job, thus forming unfair (with no respect towards physicians) attitudes towards physicians – Physician

It is important to protect physicians' rights (in relation to unsupported claims by patients) and work on improving image of physicians – Physician

*Protection of physicians' rights:*

Respondents propose that there is a need for greater protection of their rights against lawsuits coming from patients, for example:

There is no protection against unfair lawsuits from patients – Physician

Health care reforms implemented by the Ministry of Health should take measures to provide protection for physicians' rights – Physician

*Professional development for physicians:*

Lack of available professional development opportunities for physicians was also raised by respondents who suggest, for example:

The level of education/experience is rather low among physicians, thus there is a need in professional development trainings – Physician

*Broader economic and health industry issues:*

Respondents have also provided their observations on broader economic and health industry issues, among which were the ones related to their overall dissatisfaction with the way their work is being evaluated (low evaluation) and that is a lack of teamwork among physicians working in one workplace. Also, they have commented, for example, that:

There is a discrepancy between prices, quality of services and quality of life (real estate is expensive, salary is low, etc.) – Physician

Impossible to buy apartment (property) in Almaty or Astana (former and current capital) because of high prices and low salaries – Physician

People want to live better and be confident in their and their children's future. Currently, there is no such confidence – Physician

As seen from the overview of results, by examining the underlying motives for outflow of professionals from the public to the private health care sector in Kazakhstan, it was possible to glean practical insights on the country's health care industry as well as offer more general insights into the behavioral and economic incentives faced by 'sector switchers'.

Therefore it could be argued that results from this study have important implications for Kazakhstan's national health and economic policies while also informing our understanding of public management (sector switching) and the dynamics of transitions from centralized to market economies.

## CHAPTER VIII

### 8.0. GENERAL DISCUSSIONS:

The contribution that this research makes to the body of knowledge is by understanding sector switching from the public to the private health care sector in transition economy like Kazakhstan, which has not been done before according to our knowledge. The research results suggest that the data collected and analyzed for the study have provided us with clear answers to the research question identified at the beginning, which is why do health care professionals in Kazakhstan switch from the public sector to similar jobs in the private or nonprofit sectors?

The results of the research confirm the importance of studying sector switching in transition economies like Kazakhstan since it addressed ways in which variations in perceptions about risky environments of transitional economies change the traditional explanations for sector switching behavior. This research has revealed some of the dynamics of sector switching behavior and the characteristics of “sector switchers” in Kazakhstan.

Moreover, the general variations in perceptions of risks or uncertainties that are common for transitional economies and their environments, and the degree to which specific characteristics of ‘transition’ affect individuals’ perceptions of risk, and subsequently their decision to switch sectors have been also discussed and revealed through the research results. At the same time, both economic and behavioral factors and ways they interact with perceptions of risk among sector switchers have suggested interesting outcomes, which are being discussed in greater details below.

I now turn to an overview of results, and findings related to demographics and variations in risk perceptions that were confirmed as statistically significant in OLS and Logistic models, and a

discussion on interaction term. I conclude by talking about theoretical issues around uncertainties and risks that distinguish this case study and with proposing strengths and limitations of the research and suggestions for future research. Policy recommendations are also presented to interested parties for their review and consideration.

### 8.1. Overview of results:

The research results suggest that the data collected and analyzed for the study have provided us with clear answers to the research question identified at the beginning (see Appendix B for greater details), which is why health care professionals in Kazakhstan switch from the public sector to similar jobs in the private or nonprofit sectors?

The results of the research suggest that the following aspects testing physicians' likelihood of trying to find a job with another organization within the next 12 months addressed in this research –

- factors which were important for respondents' in making their decision to take a job at their current organization (*factorsall*),
- respondents' current salary (*currsly*),
- number of implemented reforms by the Ministry of Health in the country (*minhcto manyreform*),
- respondents' age, where older respondents are not as inclined to find a job with another organization within the 12 month (*age*), and
- respondents' ethnicity where compared to a non-majority ethnic group (Russians and others), individuals of the majority group (Kazakhs) have less inclinations to find a job with another organization within the 12 month (*ethnicity*)

are important factors (statistically significant) in physicians' decision to continue working at the current work place.

Moreover, the results also propose that the following characteristics testing physicians' likelihood of trying to find a job with another organization within the next 12 months –

- comments about respondents' current job and their overall dissatisfaction with their current job situation (*commentsjb*),
- frustration with their salary and agreement with a statement that in general, their salary is significantly lower than medical doctors of the same qualification receive in a different sector (public or private) (*sttmntonslrya*),
- respondents' possible engagement in risky activity or behavior (*riskperceptionall*), and
- physicians' opinion on conditions of the health care system today compared to the end of 1990 - early 2000 (*cndthctoday2*)

affect physicians in making their decision to change their employment sector. For physicians' in public health care sector is means switching from the public to the private sector, even though it might not be as developed in transition economies like Kazakhstan.

In relation to the second dependent variable and odds of switching from physicians' current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector, the results of the research suggest that the following aspects addressed in this research

- factors which were important for respondents' in making their decision to take a job at their current organization (*factorsall*),
- respondents' belonging to or working at the private health care sector (*publicprivate1*), and
- respondents' age (*age*)

are important factors (statistically significant) in physicians' decision to continue working at the current work place.

Moreover and specifically for private health care professionals the following factors –

- physicians' agreement with a suggestion which proposes that in general physicians should be greater involved and asked by the Ministry of Health for their opinion in relation to the reforms and ways of their implementation in the country (*phymoreinvohinc*)

are important (statistically significant) in their decision to continue working for the private health care sector.

At the same time, the results also propose that the following characteristics –

- comments about respondents' current job and their overall dissatisfaction with their current job situation (*commentsjb*),
- frustration with their salary and agreement with a statement that in general, their salary is significantly lower than medical doctors of the same qualification receive in a different sector (public or private) (*sttmntonslrya*), and
- respondents' agreement with a statement that in general their salary does not comply with the level of their education and experience (*sttmntonslryb*)

affect physicians in making their decision to switch their employment sector. For physicians in the public health care sector is means switching from the public to the private one, even though it might be not as developed in transition economies like Kazakhstan.

Moreover, for private health care professionals in particular the following factors –

- physicians' understanding of problems in providing public medical services in the country  
(*problems*)

are important (statistically significant) in their decision to switch their employment sector from the private to another one that is possibly outside of the health care sector.

## 8.2. Demographic Findings:

*Age, ethnicity, and number of children physicians have:*

Out of all of control variables collected and tested for this research, only few of them were statistically significant in OLS and Logistic models. Among those were statistically significant ones in OLS models in particular – *age* and *ethnicity*. In Logistic models, *age* and *number of children* variables were statistically significant.

Physicians' *age* has a negative effect on physicians' inclinations to switch their employment sectors suggesting that the older the respondents are, the less likely they are inclined to find a job with another organization within the 12 month. In other words, increase in respondents' age year leads to reduction in their inclination to find a job with another organization within the 12 month.

Such an outcome is rather intuitive since when becoming older, people in general prefer working for their current organization where they are provided with some stability and some security to transition to retirement when time comes. At the same time, working for a new organization, which would require their total efficiency might be not their first preference if they still have an option to rather continue working at their current work place until their retirement.

The preference of older respondents to continue working at their current place rather than switching to a new one could be also explained by earlier mentioned suggestion by Barsky et. al. (1997) proposing that *age* differences matter when taking risk and that older cohorts are the most risk tolerant, compared with their cohorts in the middle. Risk tolerance here could be interpreted as risk-averse behavior.

Physicians' *ethnicity*, which has a negative effect on physicians of a majority ethnic group (Kazakhs) inclinations to switch their employment sector compared to a non-majority ethnic group (Russians and others). Such an outcome where individuals of the majority group (Kazakhs) have fewer inclinations to find a job with another organization within the 12 month could be explained by the fact that there is a general trend in the country's current development for the workflow to be operated in Kazakh, which is the native language of the majority respondents participated in the study.

Promotion of the use of Kazakh language in everyday workflow operations, including paperwork, is, at the same time, of a challenge for non-majority ethnic groups (Russians and others). Having to learn Kazakh in their mid-ages (average age of respondents is 40 years old) could be difficult because Kazakh and Russian (since it is a co-official and widely used spoken language in the country), for example, belong to two different language groups (Turkic and Slavic). This factor makes it problematic to learn Kazakh within a short time period (unless it is somebody's utmost priority). As a result, majority of Russian and other ethnic groups' representatives choose to switch sectors of their employment or immigrate (though the current research did not find migration motives to be statistically significant).

In relation to the *number of children* that respondents' have, private health care professionals have identified it to be very important in their odds of switching from their current job to a new

job/activity that is suggested to be more interesting and fulfilling within the health care sector. Moreover, increased number of children of private health care professionals has a statistically significant positive effect on their inclination to switch from their current job to a new job/activity.

Such an outcome could be explained by what Sousa-Poza and Henneberger (2004) have suggested and which was also mentioned earlier in this discussion, that a move from the private to public sector work could be for reasons that are related to intrinsic motivations. The assumption, which could be made here, is that while working for the private health care sector, physicians are generally paid more than their counterparts in the public health care sector. Having greater salaries leads to providing their children with more opportunities and resources (financial, educational, recreational, etc.) that are similar to those provided by parents who work for private sector (business companies).

Seeing what private sector representatives could provide their children with, physicians' in the private health care sector might start thinking of ways to be able to afford similar opportunities for their children. This might possibly lead to them switching from their employment sector to some other – private sector in the country in general, not related to the health care sector – in their desire to equally provide for their children on a similar scale and level as private sector representatives do for their kids.

### **8.3. Variations in perceptions of risk:**

Variations in perception of risk in this research is being conceptualized as a combination of ways through which physicians understand risk that is present (if at all) within the health care industry in the country, and how they respond to risk in the health care sector that is operationalized

here through the likelihood of physicians' possible engagement in risky behavior or activities. Risk itself is thus a main force in situating health care problems, and an important indicator of a situation within the health care sector.

The variations in perception of risk in this study is being operationalized by considering opinion of health care sector professionals' of Kazakhstan in relation to the situation with the condition of health care infrastructure (diminished or not) and with volume of investments made to the health care sector (or lack, thereof), as well as with uncertainties (if any) around introduction and implementation for health care reforms.

Considering suggestions made by Sjoberg on what could explain variance in risk perceptions, which propose that risk perception can be well explained by attitude, general risk sensitivity, and the reaction to specific components of the hazard at hand, which were all discussed in greater detail earlier, the results of this study suggest that risk perception variable was statistically significant in OLS models (only). It proposes that physicians' agreement with being possibly engaged in suggested risky activities or behaviors (*riskperceptionall*), perceived by their attitudes, has a positive effect on their inclination to find a job with another organization within the 12 month.

#### **8.4. Interaction terms:**

As mentioned earlier, I have also created an interaction term (which is a product of two predictor variables of interest) for the analysis which were age of physicians who have participated in the study and their opinion on set of suggested factors (some personal, family and professional) to be important in making their decision to take a job at their current organizations. The interaction term allowed to better understand relationship between variables, test more hypotheses, and see how

age and opinion of factors differ for younger (age 25-45), mid-age (45-60) and older physicians (60 and older) (see Graph 1).

The interaction term suggests that for younger (age 25-45) physicians having less factors available now to them, but which were important for respondents' in making their decision to take a job at their current organization, leads to their greater inclination to switch to another organization within the next 12 month. At the same time, for the younger (age 25-45) physicians having high (more) factors available to them might increase their inclination to continue working at their current organization.

For mid-aged (age 45-60) physicians having less factors now available to them, but which were important for respondents' in making their decision to take a job at their current organization, leads to their greater inclination to switch to another organization within the next 12 month. However, for the mid-age (age 45-60) physicians having more factors available to them now might increase their inclination to continue working at their current organization.

For older aged (age 60-older) physicians having less factors now available to them, but which were important for respondents' in making their decision to take a job at their current organization, leads to their greater inclination to switch to another organization within the next 12 month. However, for older age (age 60-older) physicians having some or more factors available to them now increase their inclination to continue working at their current organization.

In other words, having an interaction term helped us to understand the situation with factors (some personal, family and professional) to be important in making physicians' decision to take a job at their current organizations depending on their age. Factors which were important for respondents' in making their decision to take a job at their current organization are not only statistically significant and important for physicians in their decision to continue working at the

current work place, but by having age variable in interaction suggested variations in regards to the importance of factors for different age groups of physicians participated in the research.

Another interaction term which was created for the analysis which were comments about respondents' current job and their overall dissatisfaction with their current job situation (*commentsjb*) and frustration with their salary and agreement with a statement that in general, their salary is significantly lower than medical doctors of the same qualification receive in a different sector (public or private) (*sttmntonslrya*). The idea was also to see whether this interaction term would allow to better understand relationship between variables in hypotheses tested, however, as could be seen in results' table, it was not statistically significant in neither OLS or Logistic models.

## CHAPTER IX

### 9.0. THEORETICAL ISSUES AROUND UNCERTAINTIES AND RISKS DISTINGUISHING THIS CASE STUDY:

What distinguishes this study is a suggestion that it fills out the gap between job choice and sector switching literature by explaining ways in which economic and behavioral factors influence sector switching in transitional economies subjected to risk and uncertainties. In other words, this research focuses on how structural and social changes, or environment of transitional economies like Kazakhstan's, affect sector switching and job change patterns of individuals working in the health care sector.

As discussed earlier, during the transformation period of countries in transition, the government is only concerned with political and economic reforms, and neglects the human aspects of the transition process, which is among some issues to assure provision of adequate salaries and benefits, job security/tenure, work conditions, “family friendly” policies (e.g. flexible work hours, parental leave), and opportunities for career development/growth.

If to prioritize between economic and behavioral factors when deciding whether or not to switch sectors of occupation from the public to private health care institution, in an environment of transitional economy with risks and uncertainties involved, economic factors – salary and benefits – are of at most priority for individuals. Considering constant rises in inflation rates, increase of prices on products and services, it is natural to observe individuals looking for employment opportunities in private institutions that provide their employees with larger salaries and greater amount of benefits.

It is also pretty normal and common in a situation of countries with transition economies for people to view salary (and its amount consequently) in general as a guarantor of some stability. Even though they were substantially reduced during the period of transition, benefits that are provided by an occupation sector and an organization in particular are also important for individuals in finalizing their decision about their employment arrangements.

As mentioned several times already before, the private health care sector in Kazakhstan offers larger salaries and benefits to its employees. At the same time, private health care institutions in transition economies are vulnerable of being accused and not protected from being closed at any time by numerous regulatory governmental agencies (such as quality control, bureau for hospitalization, informational/medicinal centers, sanitary and epidemiological services, Ministry of Health, departments of Health, centers for healthy lifestyle, etc.) if suggested failing to comply with their regulations in providing health care services.

In this situation, individual's risk-averse or risk-taking behavior plays a great role where after considering all of the cons and pros of working in either public or private sector individuals choose between options available to them the one with most benefits (which differ from one individual to another). What is considered is whether greater salary now in the private health care institution (surrounded with risks and threats of being closed at any time) is more important compared to low salary but greater job security for a longer time period that is available in the public health care institution.

Behavioral factors – job satisfaction and motivation – are also important when it comes to occupation sector choice, though are also viewed by individuals as secondary in comparison with economic ones. Job satisfaction could be suggested to be eventually greater for physicians working in the private health care sector, since services that they provide to patients are potentially of a better

quality when provided using newer equipment that is available to them. Motivation (material motivation rather than the altruistic one) is also probably greater in the private health care sector since every patient brings additional financial compensation to a physician.

Besides economic and behavioral factors, individuals are also considering health care sector's environment on a broader scale when making decisions about their employment arrangements. Whether the sector is allocated with enough resources and investments to provide quality health care and has adequate infrastructure, whether there is a consistent vision and a clear plan or reforms of the Ministry of Health in the country related to ways the sector is further developed and improved are among those important environmental factors which affect individuals' decisions about their employment sector. Overall problems with providing medical services in the country (which are different for each individual physician working in the system) are also considered in relation to an extent to which they might be affecting physician's performance.

Moreover, physician's gender, age, ethnicity and his or her risk-taking or risk-averse behavior (as mentioned above) are also important when deciding about possible sector switch. For example, in current study average respondent is characterized as the one who is most likely is a woman in her 40<sup>th</sup>. She is Kazakh, married and has 2 children on average. She is a graduate from a medical school class 1989 (which was during the period of the dissolution of Soviet Union), and has highest qualification category.

If to take that average respondent and consider economic and behavioral factors as well as risks and uncertainties of transition economies, then it can be suggested that she is most likely to base her decision to either switch the sector of employment to the private health care institution relying on her opinion whether or not her salary is significantly lower than medical doctors of the same qualification receive in the private sector. If she believes that it is true and her counterparts are

better paid in the private health care sector, she is more likely to try to find a job with the private health care institution within the next 12 months.

If this potential switcher also thinks that her salary does not comply with the level of her education and experience, she is even more likely to be interested in a possibility of switching from her current job to a new job or activity that is suggested to be more interesting and fulfilling within the health care sector. However, besides the formal compensation, she is also evaluating her job satisfaction with her job arrangements and whether she has an opportunity to provide qualified medical services to her patients. If the potential switcher is not satisfied with her job settings, she is more like to try to find a job with the private health care institution in the nearest future.

On a broader scale, potential switcher's agreement that in general the condition of the health care system today, in comparison to earlier years, or the end of 1990-early 2000 that initiated series of reforms in the health care sector of Kazakhstan, has deteriorated, she is even more likely to try to find a job with private health care institution within the next 12 months.

Potential switcher's risk-taking behavior and their possible engagement in risky activity or behavior leads to her trying finding a job with the private health care institution within the next 12 months. At the same time, our potential switcher is also considering factors (personal and family, as well as professional), which were important in making her initial decision to take a job at her current organization. These factors are most likely still essential for her and are evaluated against what the private health care sector in the country has to offer.

Being on average in her mid 40<sup>th</sup> and a Kazakh, physician is most likely to view the public health care sector as a safer one to work in until her retirement age (which is 58 years old for women and 63 for men). Being a Kazakh she is more comfortable in general (not always though) to operate in Kazakh language (which is gradually taking over the Russian language) during her every day work

procedures. Moreover, the Ministry of Health care's reforms might be viewed by an average respondent as bringing some stability to the system since they are supposedly implemented to further reform the health care sector.

As could be seen, what distinguishes this study is a clearly identified set of factors (individual, economic, behavioral and environmental) that affect individuals' decision about their employment sectors. By revealing the degree and extent to which each factor matters to individuals studied, this research provides policy makers of countries in transitions with important information on ways to retain health care professionals in the national health care system.

## CHAPTER X

### 10.0. CONCLUSION:

As such, this research's findings have 'real-world' applications beyond the particular case being studied i.e. Kazakhstan. The study also offers insights to scholars and practitioners interested in understanding: 1) the factors influencing sector switching, and 2) the micro-level processes involved in the transition to a market economy.

There is a different employment reality in countries in transition, like Kazakhstan, that is accompanied with distinctive risks and uncertainties. Sector switching phenomenon in such environments thus requires a different set of determinants - with a great emphasis on variations in risk perception, which was done by this research - to explain career changes.

In relation to occupation choice and risk aversion, what is suggested in general by the body of literature discussed earlier is that measured risk aversion among workers is significantly correlated with sectoral choice and that innately risk-averse individuals have a greater probability of choosing public than private sector employment. The results of this study suggest instead that physicians when considering their possible engagement in risky behaviors or activities are inclined to find a job with another organization within the 12 month or interested in switching from the public health care sector to the private one.

#### *Strengths of the research:*

One of the main strengths of the research is in its accomplishment to identify the research question, collect data, analyze it and support suggested hypotheses by producing interesting results,

revealing set of factors (individual, economic, behavioral and environmental) that influence physicians' sector switching behavior. Moreover, the results have also proposed a set of policy recommendations formed based on analysis of the current situation at the health care sector in Kazakhstan and statistically significant results for the use of interested in these findings' parties.

*Limitations of the research:*

The most likely limitations of this study are related to the fact that there are so many different motives for changing jobs that one does not have data ample to test the many alternative motives (by Bozeman and Ponomariov, 2009). In addition, the data used for this analysis do not include comparable private or non-profit sector respondents. As suggested by Bozeman and Ponomariov (2009), there is, thus, a limit to what one can learn about careers from questionnaire-based studies.

It could be also suggested that selection biases (*volunteer or referral and nonrespondent biases*) are among some limitations for this research. The issue to consider is that respondents who have taken part in this study might be different from those who were not covered by the research.<sup>330</sup> As a result, opinion of respondents and non-respondents on issues raised and discussed in the study might be different and not particularly captured to its utmost extent. At the same time, nonrespondent bias occurs when nonrespondents' opinion on issues discussed differs in important ways from those who have participated in the research.<sup>331</sup> Considering these limitations, as a future direction, another project for this study would be to estimate and account for the level of potential bias in the sample collection.

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<sup>330</sup> Retrieved October 15, 2011, from: <http://www.umdj.edu/idsweb/shared/biases.htm>

<sup>331</sup> Ibid

### 10.1. Suggestions for the future research:

Among some of the ideas for the future research are to elaborate more on an influence (if any) of the following variables – fringe benefits, investments made to the health care sector, informal payments and motivation to migrate - on sector switching behavior in transition economies like Kazakhstan.

*Benefits* variables in particular were not directly tested in either of the models, they were rather included in the scale questions to reflect on overall workplace situation/condition of health care situation in the country. It is thus suggested to elaborate further on the importance of benefits in physicians' sector switching behavior in the future research by looking at fringe benefits and whether increased quantity of those available for practicing physicians might increase their likelihood of continuing working at their current organizations rather than switching.

Benefits were identified as important factors for physicians in their comments to the free-response question. Benefits, in a form of medical insurance, improved pension system, bonuses, social care/protection packages, were suggested there as essential for increasing the quality of work of physicians and thus their overall inclination to continue working at their current organizations. It would be interested to see through the future research whether it is a statistically significant argument.

*Investments* made to the health care sector, which were represented by a set of variables to reflect on investments made by the government and by the private sector in the country, were not statistically significant in neither OLS nor Logistic models. It is thus suggested to elaborate further and study possible influence of investments made to the health care sector in relation to making it a risky one to work in and see whether such variations in risk perceptions might lead to respondents' sector switching behavior.

*Informal payments*, represented by set of variables in this study, including, whether physicians know of anyone who has ever personally taken money or presents in a form of gratitude from their patients during their regular work hours, what has motivated patients to pay informally for services, and a set of statements about informal payments reflecting on a current situation in the country in relation to informal payments practiced have not produced statistically significant results in either OLS or Logistic models.

Thus, informal payments variables were not included in the analysis at this point, but are proposed for future research opportunities since they are still suggested to be among important reasons for physicians' in the public health care sector to continue working there. The difference between substantially low public sector physicians' salaries (compared to their counterparts in the private health care sector) might be substituted with informal payments that they receive from their patients for provided medical services. It is, however, important to first run analysis and receive statistically significant results to justify making this argument.

Moreover, *migration* aspect of switching sectors should be further studied since it is still believed to be an important factor for the loss of human capital to other countries where decision to migrate could be explained by the fact that professionals, and health professional in particular in our case, migrate to countries where their skills are highly valued. Migration of representatives of a non-majority ethnic group in particular (Russians and others) to Russia or to any other country could be also partly explained by the earlier discussed fact that there is a greater shift in the country to use Kazakh language in every day workflow operations, thus increasing tendency to migrate among representatives of a non-majority ethnic group in the country. These possible migration inclinations should be further studied.

Recent *career history* of physicians who have participated in the research is also among possible future research topics. At present, there are data that is sufficient to cover the entire career history to date of the individuals studied. The data about past jobs include start and end dates, the number of employees supervised, the type of job (supervising, professional, or technical), and the type of organization (government, private, nonprofit sector) of respondents of this study. It would be interesting to see whether respondents have prior switched from one sector to another or have stayed committed to one (public or private health care sector) throughout their career.

Among some of the control variables that should be used for further research are respondents' *gender, marital status, year of graduation* from the Medical University, which could provide us with additional important information on specifics of sector switching.

Moreover, risk perception variable should be tested as not only one variable, but as a domain-specific risk-attitude scale. As proposed by Weber, et. al. (2002), it is a psychometric scale assessing risk taking of a population in five content domains – financial decisions, health/safety, recreational, ethical, and social decisions, where respondents are asked to rate the likelihood of their engagement in risky activities in relation to each specific domain.

Even though scale questions were used to reflect on likelihood of physicians' engagement in suggested risky activity or behavior in the analysis that have covered five content risk-attitude domains (financial decisions, health/safety, recreational, ethical, and social decisions), they were not tested separately from each other to reveal in greater detail which of the domains within respondents' risk-attitude might be more important or significant in making their decision in relation to their sector switching behavior.

This could be one of the possible future extensions of the current research, since as Wildavsky and Dake (1990) suggest that only by comparing across types of danger can we learn

whether individuals have a general tendency to be risk averse or risk taking, or whether their perceptions of danger depend upon the meaning they give to objects of potential concern.<sup>332</sup>

Through the future research of sector switching and risk perception we might be able to predict and explain “what kinds of people will perceive which potential hazards to be how dangerous”<sup>333</sup> for them in their sector switching behavior.

## 10.2. Policy recommendations:

Among some of policy recommendations, resulted from this research and aimed at providing interested parties with a set of policy advice that could reduce sector switching behavior of physicians and prevent them from leaving the public health care sector to the private one are:

1. Increase physicians' salaries at least to make it similar to those received by physicians' in the private health care sector with similar qualifications and experience. At the same time it is important to mention that the current health care reform program - the State Program of health care development for 2011-2015 “Salamatty Kazakhstan” - does not directly address physicians' wages situation by suggesting in general that the system of wage payments would be improved. The Program makes great emphasis on the importance of increasing physicians' image, social status, respect and prestige of being one of ways to motivate physicians to do their job instead, which might not be something that physicians in the public health care sector might find helpful when trying to pay their bills and provide for their family and children.

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332 Wildavsky, A., Dake, K. (1990). Theories of risk perception: who fears what and why? *Daedalus*, 119(4), 42

333 Ibid

2. Increase benefits that are available for physicians in the public health care sector (bonuses, vacations, apartments, pensions) and protect physicians' legal rights against patients' unfair accusations. All of these actions are important to increase job satisfaction and motivation of physicians, since at present because of a low attractiveness of being a physician and of limited motivational mechanisms the level of sector switching behavior will continue to increase.
3. Improve conditions of the health care sector in general to improve work condition of physicians to be able to provide quality health care services to patients by improving infrastructure of health care facilities and investing more resources to the public health care sector, including the one in rural areas in the country.
4. Ask physicians' for the opinion/recommendation before initiating/implementing yet another health care sector reform to increase their feeling of ownership and engagement with the reforms' initiation and implementation process. This suggestion also comes from the comments made by participating physicians in their free-response question.

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## APPENDIX A:

### QUESTIONNAIRE

ID of a respondent: \_\_\_\_\_ (*will be provided by a staff member*)

\*\*\*\*\*

Please answer all of the questions. There are no right or wrong answers.

Please be advised that we are not asking you to provide us with your name. It is a **confidential** survey! We are not going to share this information outside of this research or provide access to this information to anyone who is not involved in this study. We kindly ask you to please be precise/frank/candid in your answers.

Please understand that participation in this study is completely **voluntary**! Your decision whether or not to participate will in no way affect your current or future relationship with your medical institution or with CGU & IERES under which affiliation this study is being conducted. You have the right to withdraw from the research at any time without penalty. You also have the right to refuse to answer any question(s) for any reason, without penalty.

**We appreciate your help and time!**

#### I. QUESTIONS RELATED TO YOUR CURRENT JOB, WORK EXPERIENCE AND PROBABILITY OF FINDING A NEW JOB OR SWITCHING SECTORS OF EMPLOYMENT:

1) What is your qualification category? (*select all that apply*)

- |                                    |                          |
|------------------------------------|--------------------------|
| a) Highest category                | <input type="checkbox"/> |
| b) I category                      | <input type="checkbox"/> |
| c) II category                     | <input type="checkbox"/> |
| d) Doctor of medical sciences      | <input type="checkbox"/> |
| e) Candidate of medical sciences   | <input type="checkbox"/> |
| f) Have a specialist's certificate | <input type="checkbox"/> |
| g) Do not have one                 | <input type="checkbox"/> |

2) How long have you worked at your current work place? \_\_\_\_\_

3) Please indicate the extent to which the factors below (some personal and family, some professional) were important in making your decision to take a job at your current organization:

<i>Statements</i>	<i>Strongly</i>	<i>Somewhat</i>	<i>Neither agree nor</i>	<i>Somewhat</i>	<i>Strongly</i>

	<i>agree</i>	<i>agree</i>	<i>disagree</i>	<i>disagree</i>	<i>disagree</i>
a. Job security	5	4	3	2	1
b. Low levels of bureaucracy	5	4	3	2	1
c. Opportunities for professional growth (e.g. opportunity for training and career development)	5	4	3	2	1
d. Opportunity to specialize in areas outside your primary specialization	5	4	3	2	1
e. Quality of benefits (e.g. medical, insurance)	5	4	3	2	1
f. Salary	5	4	3	2	1
g. Opportunity for advancement within the organization's hierarchy	5	4	3	2	1
h. Overall quality and reputation of this organization	5	4	3	2	1
i. Desire for a low conflict work environment	5	4	3	2	1
j. Desire for increased responsibility	5	4	3	2	1
k. "Family friendly" policies (e.g. flexible work hours, parental leave)	5	4	3	2	1
l. Ability to serve the public and the public interest	5	4	3	2	1
m. Few, if any, alternative job offers	5	4	3	2	1
n. Relatively low cost of living in the region	5	4	3	2	1
o. Employment opportunities for spouse or partner	5	4	3	2	1

- 4) Please indicate the extent to which you agree or disagree with the following comments about your current job:

<i>Statements</i>	<i>Strongly agree</i>	<i>Somewhat agree</i>	<i>Neither agree nor disagree</i>	<i>Somewhat disagree</i>	<i>Strongly disagree</i>
a. Due to a lack of time I cannot develop good relations with my patients	5	4	3	2	1
b. I am often overwhelmed with my patients' demands	5	4	3	2	1
c. I believe that I have an opportunity to provide qualified medical services to my patients	5	4	3	2	1
d. Many of my patients request to prescribe them potentially unnecessary and scientifically invalid medical procedures/treatment	5	4	3	2	1
e. Many clinical standards/protocols, which are used to monitor the quality of work done by physicians are not adequate with the principals of evidence based medicine and are outdated	5	4	3	2	1
f. My current position is a «promotion» in my career in comparison to my previous job	5	4	3	2	1
g. My job does not provide me with enough of intellectual stimulus to further my professional development	5	4	3	2	1
h. My relations with patients	5	4	3	2	1

have become hostile in comparison with the ones that I used to have					
---	--	--	--	--	--

- 5) What do you think is a probability of you keeping your current job in the next 12 months:
- a) I am 100% sure that I will keep my current job ☐
- b) I will likely keep my job ☐
- c) It is somewhat likely that I will keep my job ☐
- d) I will likely lose my job due to layoffs or reorganization ☐
- 6) All in all, how likely is it that you will try to find a job with another organization within the next 12 month:
- a) Very likely ☐
- b) Likely ☐
- c) Unlikely ☐
- d) Very unlikely ☐
- 7) Would you be interested in a possibility of switching from your current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector
- a) Yes ☐
- b) No ☐ (*go to question #9*)
- 8) Would you still be willing to switch from your current job to a new job/activity even if a new job offers you a lower salary?
- a) Yes ☐
- b) No ☐
- 9) Please list 3 last positions (including a current one), you have held, starting with a current one:

First job:

- a) Year started: \_\_\_\_\_
- b) Number of employees supervised, if any: \_\_\_\_\_
- c) Main responsibility:
- i) Managerial ☐
- ii) Professional ☐
- iii) Technical ☐
- iv) Other \_\_\_\_\_ ☐
- d) This job was:
- i) A promotion to a higher position from within the same organization ☐

- ii) A lateral move within the same organization ☐
- iii) A lateral move from a different organization ☐
- iv) An upwards-move from a different organization ☐
- v) Your first job ☐

Second job:

- e) Start and end dates: \_\_\_\_\_
- f) Number of employees supervised, if any: \_\_\_\_\_
- g) Organization type:
  - i) Public organization ☐
  - ii) Private company ☐
  - iii) Non-profit organization ☐
  - iv) Different job but same organization as current one ☐
- h) Main responsibility:
  - i) Managerial ☐
  - ii) Professional ☐
  - iii) Technical ☐
  - iv) Other \_\_\_\_\_ ☐
- i) This job was:
  - i) A promotion to a higher position from within the same organization ☐
  - ii) A lateral move within the same organization ☐
  - iii) A lateral move from a different organization ☐
  - iv) An upwards-move from a different organization ☐
  - v) Your first job ☐

Third job:

- j) Start and end dates: \_\_\_\_\_
- k) Number of employees supervised, if any: \_\_\_\_\_
- l) Organization type:
  - i) Public organization ☐
  - ii) Private company ☐
  - iii) Non-profit organization ☐
  - iv) Different job but same organization as current one ☐

m) Main responsibility:

- i) Managerial ☐
- ii) Professional ☐
- iii) Technical ☐
- iv) Other \_\_\_\_\_ ☐

n) This job was:

- i) A promotion to a higher position from within the same organization ☐
- ii) A lateral move within the same organization ☐
- iii) A lateral move from a different organization ☐
- iv) An upwards-move from a different organization ☐
- v) Your first job ☐

## II. QUESTIONS RELATED TO CONDITIONS OF THE HEALTH CARE SECTOR IN KAZAKHSTAN:

In this part of the survey you are asked for your opinion about conditions of the health care sector in Kazakhstan. We are interested in your opinion about the current situation of health care infrastructure and investments made to the sector.

Please answer all of the questions. If you are not sure in your answer, please give the one which you think is most relevant in your understanding of current conditions in the health care of Kazakhstan

10) Indicate the degree to which you think the following issues are a problem (if at all) in providing public medical services in the country:

<i>Statements</i>	<i>Strongly agree</i>	<i>Somewhat agree</i>	<i>Neither agree nor disagree</i>	<i>Somewhat disagree</i>	<i>Strongly disagree</i>
a. A ratio of patients to medical personnel in public medical institutions is too high	5	4	3	2	1
b. Unfair evaluation of practicing physicians' work by their administration	5	4	3	2	1
c. Lack of adequate salaries & benefits	5	4	3	2	1
d. The existing infrastructure is inadequate (for example, lack	5	4	3	2	1

of high-tech equipment and personnel trainings on how to use equipment in all hospitals in the country, etc.)					
e. Too much bureaucracy	5	4	3	2	1
f. Too much corruption	5	4	3	2	1
g. Too much paperwork required of practicing physicians	5	4	3	2	1
h. Numerous redundant and duplicating each other monitoring agencies (on quality control, reimbursement for health services, bureau for hospitalization, informational/medicinal centers, sanitary and epidemiological services, Ministry of Health, departments of Health, centers for healthy lifestyle, etc. )	5	4	3	2	1

- 11) Compared to the ends of 1990-early 2000, which initiated series of reforms in the health care sector of Kazakhstan (starting from a State programs “Health of the Nation” and the Concept of further health care development in Kazakhstan in 2000-2005 and followed by the State program of public health reformation and development for 2005–2010), what is the condition of the health care system today, in your opinion:

- a) It has deteriorated greatly ☐
- b) It has somewhat deteriorated ☐
- c) It is at the same level as before ☐
- d) It has somewhat improved ☐
- e) It has improved greatly ☐

- 12) Who, in your opinion, is making greater/more investments in health care? *(please rank 1, 2, and 3 by writing down a number in provided below lines with 1 referring to the highest investments made and 3 to the lowest ones)*

- a) Government \_\_\_\_\_
- b) Private sector \_\_\_\_\_
- c) NGOs/International organizations \_\_\_\_\_

### III. QUESTIONS RELATED TO HEALTH CARE REFORMS IMPLEMENTED BY THE MINISTRY OF HEALTH IN KAZAKHSTAN:

In this part of the survey we would like to learn about your opinion about health care reforms implemented by the government of Kazakhstan in recent years. We are interested in your view about the number and quality of reforms and whether those are appropriate or require being further improved/increased.

Please answer all of the questions choosing among available options the ones, which best correspond with your knowledge/experience about the Unified National System of health care of Kazakhstan, which is based, according to official release, on principles of available free choice to patients to decide on physicians and medical institutions to be treated at and aimed at developing a competitive environment and increased transparency of provided health services. There is also a new program - the State program for the development of health care of Kazakhstan for 2011-2015 - that the Ministry of Health is starting to implement this year, which is directed at further improving health of Kazakhstan's citizens to secure country's stable socio-demographic development and building a competitive health care system.

If you are not sure in your answer, please give the one which you think is most relevant in your understanding of policies undertaken in the health care sector of Kazakhstan.

13) How familiar are you with the nature of the reforms described above?

- a) Very familiar ☐
- b) Familiar ☐
- c) Somewhat familiar ☐
- d) Not familiar ☐
- e) Not at all familiar ☐

14) Do you agree with the reforms promoted and implemented by the Ministry of Health?

- a) Strongly Agree ☐
- b) Agree ☐
- c) Undecided ☐
- d) Disagree ☐
- e) Strongly Disagree ☐

15) Do you feel that the Ministry is implementing too many reforms?

- a) Strongly Agree ☐
- b) Agree ☐
- c) Undecided ☐
- d) Disagree ☐
- e) Strongly Disagree ☐

16) Do you think that you, as a person who is working in the health care sector, should be greater involved and asked by the Ministry of Health for your opinion in relation to the reforms and ways of their implementation in the country?

- a) Strongly Agree ☐
- b) Agree ☐
- c) Undecided ☐
- d) Disagree ☐
- e) Strongly Disagree ☐

#### IV. QUESTIONS RELATED TO FORMAL COMPENSATION:

In this part of the survey we are interested in learning about the level of compensation that you receive for working in the health care sector and whether you think that it is adequate considering your level of education, qualification & work experience.

Please answer all of the questions. If you are not sure in your answer, please give the one which you think is most relevant in your understanding of the level of compensation in the health care sector of Kazakhstan.

17) What is your current occupation status?

- a) Working full time ☐
- b) Working part time ☐
- c) Working on more than one full pay ☐
- d) Officially retired, but continue working ☐
- e) Other (*please specify*) \_\_\_\_\_ ☐

18) What is your current salary? \_\_\_\_\_ tenge

19) Do you have a part-time job in any of the following areas?

- a) Yes ☐
  - i) In your current occupation institution, but in a different department, division, etc. ☐
  - ii) In a different public health care institution ☐
  - iii) In a different private health care institution ☐
  - iv) In an organization that is not related to health care ☐
- b) No ☐

20) Do you offer private consultations to patients for additional fees in addition to your main job?

- a) Yes ☐
- b) No ☐ (*go to question #24*)

21) On average, how many patients do you usually consult privately per month? \_\_\_\_\_

22) On average, do you receive better financial compensation from your private practices than from working only in a public institution?

- a) Yes ☐
- b) No ☐

23) What is the percentage of your overall salary that you receive from your private consultation?

- a) 10 % and less % ☐
- b) 10-20 % ☐

- c) 20-30 % ☐  
 d) 30-40 % ☐  
 e) More than 50% ☐

24) Indicate the degree to which you agree with the following statements about your salary.

<i>Statements</i>	<i>Strongly agree</i>	<i>Somewhat agree</i>	<i>Neither agree nor disagree</i>	<i>Somewhat disagree</i>	<i>Strongly disagree</i>
a. My salary is significantly lower than medical doctors of the same qualification receive in a different sector (public or private)	5	4	3	2	1
b. In general, my salary does not comply with the level of my education and experience	5	4	3	2	1

## V. QUESTIONS RELATED TO INFORMAL COMPENSATION:

In this part of the survey we are interested in learning about the level of informal compensation that health care professionals receive for working in the health care sector. Please answer all of the questions. If you are not sure in your answer, please give the one which you think is most relevant in your understanding of the level of informal payments in the health care sector of Kazakhstan.

25) Do you know of anyone who has ever personally taken money or presents in a form of gratitude from their patients during their regular work hours?

- a) Yes ☐  
 b) No ☐

26) Have you thought as to what has motivated patients to pay informally for services?  
*(please choose as many as you think apply by marking your answer choices in appropriate boxes)*

- a) Being afraid of not receiving good quality health care ☐  
 b) Being forced to pay informally to a physician and/or hospital administration ☐  
 c) Desire to receive a better quality health care ☐  
 d) Example of other patients ☐  
 e) Sincere desire to thank for provided services ☐  
 f) Other *(please clarify)* \_\_\_\_\_ ☐

27) Indicate the degree to which you agree with the following statements about informal payments:

<i>Statements</i>	<i>Strongly agree</i>	<i>Somewhat agree</i>	<i>Neither agree nor disagree</i>	<i>Somewhat disagree</i>	<i>Strongly disagree</i>
a. Informal payments are regular practice in the country in general	5	4	3	2	1
b. Informal payments are regular practice in your particular institution	5	4	3	2	1
c. Opportunity to receive an informal payment is viewed as a way to receive extra monetary compensation for hard work of physicians and addition to a salary which is rather low	5	4	3	2	1
d. With informal payments that patients pay they are given an opportunity to receive a better treatment/attention	5	4	3	2	1

## VI. QUESTIONS RELATED TO YOUR RISK PERCEPTION:

- 28) For each of the following statements, please indicate the **likelihood** of you engaging in each of this activity or behavior. Please choose a number in the table below, which best describes your possible behavior in these situations:

<i>Statements</i>	<i>Very likely</i>	<i>Likely</i>	<i>Not sure</i>	<i>Unlikely</i>	<i>Very unlikely</i>
a. Admitting that your tastes/opinion are different from those of your friends	5	4	3	2	1
b. Asking your boss for a raise	5	4	3	2	1
c. Betting a month's income on the outcome of a sporting	5	4	3	2	1

event (e.g. soccer, hockey)					
d. Deciding to share an apartment with someone you don't know well	5	4	3	2	1
e. Eating 'expired' food products that still 'look okay'	5	4	3	2	1
f. Forging somebody's signature	5	4	3	2	1
g. Investing in a business that has great risks and a good chance of failing	5	4	3	2	1
h. Lending a friend an amount of money equivalent to your month's income	5	4	3	2	1
i. Moving to a new city	5	4	3	2	1
j. Not wearing a seat belt when being a passenger in the front seat	5	4	3	2	1
k. Openly disagreeing with your boss in front of your co-workers	5	4	3	2	1
l. Passing off somebody else's work as your own	5	4	3	2	1
m. Periodically engaging in a dangerous sport (e.g. mountain climbing or sky diving)	5	4	3	2	1
n. Taking a job that you enjoy over one that is prestigious but less enjoyable	5	4	3	2	1

o. Walking home alone at night in a somewhat unsafe area of town	5	4	3	2	1
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## VII. QUESTIONS RELATED TO MIGRATION:

29) Have you ever considered an idea of emigrating from Kazakhstan to Russia?

a) Yes ☐

b) No ☐

Or to any other country?

c) Yes ☐

d) No ☐

30) How much do you agree or disagree with the following statements:

What, in your opinion, could motivate medical professionals from Kazakhstan to immigrate to Russia or to any other country?

<i>Statements</i>	<i>Strongly agree</i>	<i>Somewhat agree</i>	<i>Neither agree nor disagree</i>	<i>Somewhat disagree</i>	<i>Strongly disagree</i>
a. Better living and working conditions in those countries	5	4	3	2	1
b. Good salary in those countries	5	4	3	2	1
c. Job availability/ security/tenure in those countries	5	4	3	2	1
d. Opportunity for career development/growth in those countries	5	4	3	2	1
e. Opportunity for a better future for your children in	5	4	3	2	1

those countries					
-----------------	--	--	--	--	--

### VIII. GENERAL INFORMATION:

31) Gender:

- a) Male ☐
- b) Female ☐

32) How old are you? \_\_\_\_\_

33) Your ethnic background:

- a) Kazakh ☐
- b) Russian ☐
- c) Other (*please specify*) \_\_\_\_\_ ☐

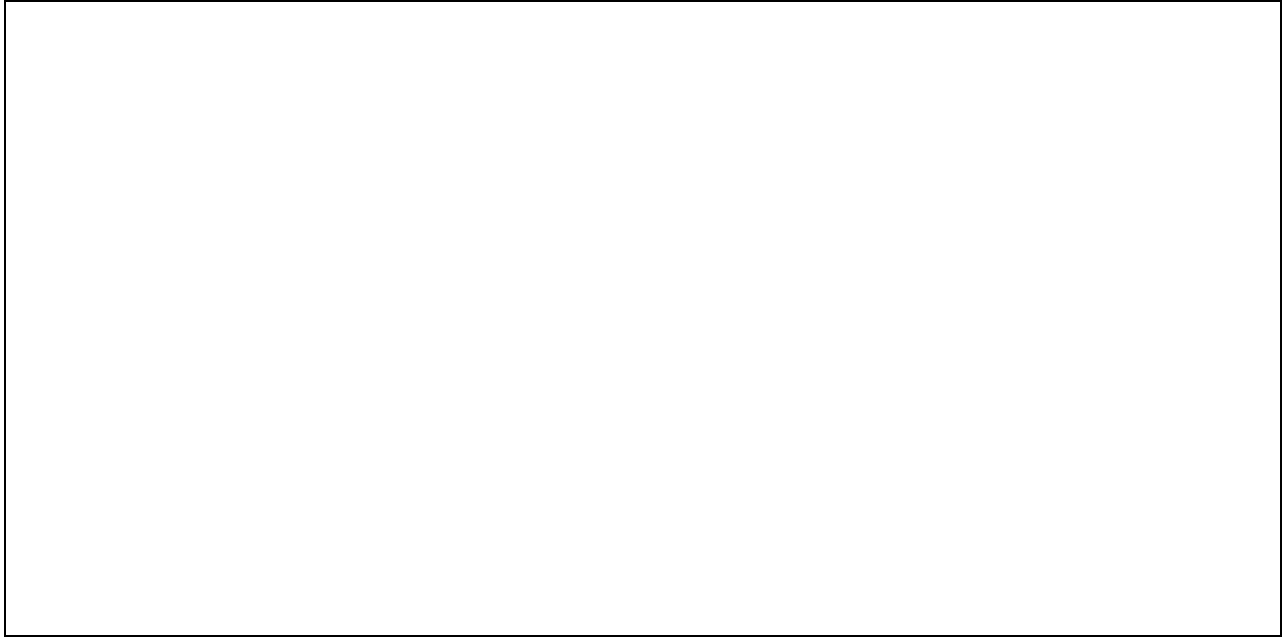
34) Your marital status:

- a) Single (never married) ☐
- b) Married ☐
- c) Divorced ☐
- d) Separated ☐
- e) Not married, but live together ☐
- f) Widowed ☐

35) How many children do you have (*please provide a total number of children here or write 0 if you do not have children*)? \_\_\_\_\_

36) Which year did you graduate from a medical university (*please provide a year*)? \_\_\_\_\_

37) Is there anything else you would like to tell us about any of the topics covered by this questionnaire, please do so in the space provided below:



**THANK YOU!**

## АНКЕТА – ОПРОС

Идентификационный № опрашиваемого \_\_\_\_\_ (будет определен исследователями)

\*\*\*\*\*

Ответьте, пожалуйста, на все вопросы. Здесь нет правильных или неправильных ответов.

Мы не просим указать Ваше имя, т.к. опрос **конфиденциальный**. Мы не будем распространять или передавать собранную информацию за пределы этого исследования или тем, кто не участвует в этом исследовании. Просим Вас быть как можно более точными/откровенными/искренними в Ваших ответах.

Участие в данном исследовании является **добровольным**. Ваше решение по поводу участия или неучастия никак не повлияет на Ваши нынешние и будущие отношения с организацией, где Вы работаете. Вы имеете право выйти из этого исследования в любое время без каких-либо последствий. У Вас есть также право отказаться отвечать на любой из вопросов по любой причине без каких-либо последствий.

**Мы признательны Вам за поддержку и Ваше время!**

### I. ВОПРОСЫ, КАСАЮЩИЕСЯ ВАШЕЙ НЫНЕШНЕЙ РАБОТЫ, ОПЫТА РАБОТЫ В ЦЕЛОМ И ВОЗМОЖНОСТИ ПОИСКА НОВОЙ РАБОТЫ ИЛИ ИЗМЕНЕНИЯ СФЕРЫ ВАШЕЙ ДЕЯТЕЛЬНОСТИ:

1) Какая у Вас квалификационная категория? (выберите все варианты, которые к Вам относятся)

- |   |                          |
|---|--------------------------|
| a) Высшая категория                     | <input type="checkbox"/> |
| b) I категория                          | <input type="checkbox"/> |
| c) II категория                         | <input type="checkbox"/> |
| d) Доктор медицинских наук              | <input type="checkbox"/> |
| e) Кандидат медицинских наук            | <input type="checkbox"/> |
| f) Имею сертификат специалиста          | <input type="checkbox"/> |
| g) Не имею ничего из вышеперечисленного | <input type="checkbox"/> |

2) Как долго Вы работаете на Вашей нынешней работе? \_\_\_\_\_ (пожалуйста, укажите общее количество лет и месяцев)

3) Укажите, насколько нижеприведенные факторы (некоторые из них личные и семейные, некоторые профессиональные) были важны для принятия Вами решения начать работать в Вашей нынешней организации:

Положения	Полностью согласен	Отчасти согласен	Нейтрален	Отчасти и не	Не согласен вообще
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				<i>согласен</i>	
а. Уверенность в сохранении рабочего места	5	4	3	2	1
б. Низкий уровень бюрократии	5	4	3	2	1
в. Возможность профессионального роста (возможность обучения, карьерного роста)	5	4	3	2	1
г. Возможность специализации в сферах, отличных от первичной специализации	5	4	3	2	1
д. Дополнительные льготы (медицинское страхование, путевки детям, премии и др.)	5	4	3	2	1
е. Заработная плата	5	4	3	2	1
ж. Возможность повышения в должности в этой организации	5	4	3	2	1
з. Качество и репутация организации	5	4	3	2	1
и. Желание работать в мало-конфликтной атмосфере	5	4	3	2	1
к. Желание иметь больше ответственности	5	4	3	2	1
л. Понимание семейных обстоятельств (гибкие часы работы, возможность отсутствия по уходу за детьми)	5	4	3	2	1
м. Возможность служить обществу и общественным интересам	5	4	3	2	1
н. Мало или отсутствие возможности найти другую работу	5	4	3	2	1
о. Сравнительно невысокая стоимость жизни в этом	5	4	3	2	1

регионе					
п. Возможность трудоустройства супруга или партнера	5	4	3	2	1

4) Укажите, пожалуйста, в какой степени Вы согласны или не согласны со следующими комментариями в отношении Вашей нынешней работы:

<i>Положения</i>	<i>Полностью согласен</i>	<i>Отчасти согласен</i>	<i>Нейтрален</i>	<i>Отчасти не согласен</i>	<i>Не согласен вообще</i>
а. Из-за недостатка времени я не могу построить хорошие взаимоотношения со своими больными	5	4	3	2	1
б. Я часто раздражен(а) требованиями моих больных	5	4	3	2	1
в. Я считаю, что у меня есть возможность обеспечить моих больных высококачественной медицинской помощью	5	4	3	2	1
г. Многие мои больные просят назначить им бесполезные и научно необоснованные медицинские процедуры/лечение	5	4	3	2	1
д. Многие клинические стандарты/протоколы, которые применяются для мониторингирования качества работы врачей, не соответствуют принципам доказательной медицины и устарели	5	4	3	2	1
е. Должность, которую я занимаю в настоящее время, является «повышением» по сравнению с моей прежней должностью	5	4	3	2	1
ж. Моя работа не дает мне достаточных интеллектуальных стимулов для дальнейшего профессионального роста	5	4	3	2	1
з. Мои взаимоотношения с больными стали более напряженными/враждебными по сравнению с теми, что были раньше	5	4	3	2	1

5) Какова вероятность, по Вашему мнению, сохранения Вами данной работы в течение следующих 12 месяцев:

а) Я на 100% уверен(а), что сохраню эту работу

☐

- b) Весьма вероятно, что я сохраню эту работу ☐
- c) Я скорее всего сохраню эту работу ☐
- d) Я возможно потеряю эту работу из-за сокращений или реорганизации ☐

6) В целом, какова вероятность того, что Вы будете пытаться найти работу в другой организации в последующие 12 месяцев:

- a) Весьма вероятно ☐
- b) Вероятно ☐
- c) Маловероятно ☐
- d) Очень маловероятно ☐

7) Заинтересует ли Вас возможность перехода с вашей настоящей работы на новую работу/деятельность в секторе здравоохранения, которая обещает быть более интересной и насыщенной?

- a) Да ☐
- b) Нет ☐ (перейдите к вопросу №9)

8) Захотите ли Вы все же перейти с Вашей этой работы на новую, даже если на новой работе зарплата будет ниже?

- a) Да ☐
- b) Нет ☐

9) Перечислите, пожалуйста, 3 последние должности (включая данную), которые Вы занимали, начиная с данной:

Данная работа:

a) Год начала: \_\_\_\_\_

b) Количество подчиненных, если есть: \_\_\_\_\_

c) Основные обязанности:

i) Руководящие ☐

ii) Профессиональные/медицинские ☐

iii) Технические ☐

iv) Другие \_\_\_\_\_ ☐

d) Эта работа была:

i) Повышением внутри той же организации ☐

ii) Переходом на подобную должность внутри той же организации ☐

iii) Переходом на подобную должность из другой организации ☐

iv) Переход в другую организацию с повышением ☐

v) Это моя первая работа ☐

Вторая работа:

- e) Даты начала и конца: \_\_\_\_\_
- f) Количество подчиненных, если были: \_\_\_\_\_
- g) Тип организации:
- i) Государственная организация ☐
  - ii) Частная компания ☐
  - iii) Организация, не имеющая целью получение прибыли ☐
  - iv) Другая работа, но тип организации такой же, как сейчас ☐
- h) Основные обязанности:
- i) Руководящие ☐
  - ii) Профессиональные/медицинские ☐
  - iii) Технические ☐
  - iv) Другие \_\_\_\_\_ ☐
- i) Эта работа была:
- i) Повышением внутри той же организации ☐
  - ii) Переходом на подобную должность внутри той же организации ☐
  - iii) Переходом на подобную должность из другой организации ☐
  - iv) Переходом в другую организацию с повышением ☐
  - v) Моей первой работой ☐

Третья работа:

- j) Даты начала и конца: \_\_\_\_\_
- k) Количество подчиненных, если были: \_\_\_\_\_
- l) Тип организации:
- i) Государственная организация ☐
  - ii) Частная компания ☐
  - iii) Организация, не предназначенная для получения прибыли ☐
  - iv) Другая работа, но тип организации такой же, как сейчас ☐
- m) Основные обязанности:
- i) Руководящие ☐
  - ii) Профессиональные/медицинские ☐
  - iii) Технические ☐
  - iv) Другие \_\_\_\_\_ ☐
- n) Эта работа была:

- i) Повышением внутри той же организации ☐
- ii) Переходом на подобную должность внутри той же организации ☐
- iii) Переходом на подобную должность из другой организации ☐
- iv) Переходом в другую организацию с повышением ☐
- v) Моей первой работой ☐

## II. ВОПРОСЫ, КАСАЮЩИЕСЯ СОСТОЯНИЯ СЕКТОРА ЗДРАВООХРАНЕНИЯ В КАЗАХСТАНЕ:

В этой части анкеты мы интересуемся Вашим мнением о состоянии сектора здравоохранения в Казахстане, его инфраструктуре и инвестициях, выделяемых на развитие здравоохранения.

Пожалуйста, ответьте на все вопросы. Если Вы не уверены в ответе, то выберите тот, который больше соответствует Вашему пониманию нынешнего состояния системы здравоохранения.

10) Укажите, настолько, по Вашему мнению, следующие проблемы мешают (если вообще мешают) оказанию медицинской помощи населению страны:

<i>Положения</i>	<i>Полностью согласен</i>	<i>Отчасти согласен</i>	<i>Нейтрален</i>	<i>Отчасти не согласен</i>	<i>Не согласен вообще</i>
а. Слишком много пациентов приходится на одного медработника в государственных организациях	5	4	3	2	1
б. Администрация несправедливо/объективно оценивает работу врачей	5	4	3	2	1
в. Низкая зарплата и недостаток льгот	5	4	3	2	1
г. Недостаточная оснащенность медицинских организаций (например, мало современного оборудования, обученных специалистов и пр.)	5	4	3	2	1
д. Слишком много бюрократии	5	4	3	2	1

е. Слишком много коррупции	5	4	3	2	1
ж. Слишком много «бумажной» работы	5	4	3	2	1
з. Много дублирующих друг друга контролирующих организаций (по контролю качества, оплате медуслуг, бюро госпитализации, информационные, лекарственные центры, санитарно-эпидемиологическая служба, Минздрав, департаменты здравоохранения, центры ЗОЖ и др.)	5	4	3	2	1

11) По сравнению с концом 1990-х – началом 2000-х гг, когда были начаты реформы в секторе здравоохранения Казахстана (Гос программа «Здоровье Нации», Концепции дальнейшего развития здравоохранения на 2000-2005 гг., Гос программа по реформированию и развитию здравоохранения на 2005-2010), каково, по Вашему мнению, состояние системы здравоохранения сейчас:

- а) Значительно ухудшилось ☐
- б) Отчасти ухудшилось ☐
- в) Находится на том же уровне ☐
- г) Отчасти улучшилось ☐
- д) Значительно улучшилось ☐

12) Кто, по Вашему мнению, делает более значительное инвестирование в здравоохранение? *(пожалуйста, классифицируйте 1, 2, и 3, написав число в предоставленных строчках, где 1 означает наивысшее количество инвестиций и 3 - наименьшее)*

- а) Государство \_\_\_\_\_
- б) Частный сектор \_\_\_\_\_
- в) НПО/международные организации \_\_\_\_\_

### III. ВОПРОСЫ, СВЯЗАННЫЕ С РЕФОРМАМИ, ОСУЩЕСТВЛЯЕМЫМИ МИНИСТЕРСТВОМ ЗДРАВООХРАНЕНИЯ В КАЗАХСТАНЕ:

В этой части анкеты мы хотели бы узнать Ваше мнение о реформах, осуществляемых правительством Казахстана в последнее время. Нас интересует Ваша точка зрения о количестве и качестве реформ, соответствуют ли они требованиям времени или нуждаются в дальнейшем улучшении/расширении.

Пожалуйста, ответьте на все вопросы, выбрав варианты ответов, которые соответствуют Вашему мнению/опыту о Единой Национальной Системе Здравоохранения, основанной, по официальной версии, на принципе свободного выбора врача и мед организации, направленной на формирование конкурентной среды и повышение прозрачности процесса оказания мед услуг. Недавно принята новая Государственная программа развития здравоохранения «Саламатты Казахстан» на 2011-2015 гг., которая направлена на дальнейшее улучшение здоровья граждан РК для обеспечения устойчивого социально-демографического развития страны и формирование конкурентоспособной системы здравоохранения.

Если Вы не уверены в ответе, то выберите тот, который лучше соответствует Вашему пониманию нынешних реформ, осуществляемых в секторе здравоохранения Казахстана.

13) Как хорошо Вы знаете о реформах, описанных выше?

- а) Хорошо осведомлен ☐
- б) Осведомлен ☐
- в) Немного осведомлен ☐
- г) Не осведомлен ☐
- д) Вообще не осведомлен ☐

14) В целом, согласны ли Вы с реформами, которые внедряются Минздравом в настоящее время?

- а) Абсолютно согласен ☐
- б) Согласен ☐
- в) Не определился ☐
- г) Не согласен ☐
- д) Резко не согласен ☐

15) Считаете ли Вы, что Министерство проводит слишком много реформ?

- а) Абсолютно согласен ☐
- б) Согласен ☐
- в) Не определился ☐
- г) Не согласен ☐
- д) Резко не согласен ☐

16) Считаете ли Вы, что, как работник здравоохранения, Вы должны быть больше вовлечены в процесс принятия решения по реформам и путям их реализации в Казахстане?

- а) Абсолютно согласен ☐
- б) Согласен ☐
- в) Не определился ☐
- г) Не согласен ☐
- д) Резко не согласен ☐

#### IV. ВОПРОСЫ, СВЯЗАННЫЕ С ОФИЦИАЛЬНОЙ ОПЛАТОЙ ТРУДА:

В этой части анкеты мы хотели бы узнать об уровне компенсации, которую Вы получаете, работая в секторе здравоохранения, а также о том, считаете ли Вы ее достаточной, учитывая уровень Вашего образования, квалификацию и опыт работы.

Если Вы не уверены в ответе, то выберите тот, который лучше соответствует Вашему мнению об уровне компенсации в секторе здравоохранения в Казахстане.

17) Каков Ваш рабочий статус на сегодня?

- а) Работаю на полную ставку ☐
- б) Работаю на неполную ставку ☐
- в) Работаю более, чем на одну ставку ☐
- г) Получаю пенсию, но продолжаю работать ☐
- д) Другое (*пожалуйста, укажите*) \_\_\_\_\_ ☐

18) Какова Ваша зарплата? \_\_\_\_\_ тенге

19) У Вас есть дополнительная работа в одной из следующих организаций?

- а) Да ☐
  - i. В Вашей нынешней организации, но в другом отделении, отделе и т.д. ☐
  - ii. В другом гос. мед. учреждении ☐
  - iii. В другом частном мед. учреждении ☐
  - iv. В организации, не связанной со здравоохранением ☐
- б) Нет ☐

20) Оказываете ли Вы частные консультации больным за дополнительную плату помимо Вашей основной работы?

- а) Да ☐
- б) Нет ☐ (перейдите к вопросу #24)

21) Сколько примерно пациентов вы обычно консультируете частно в месяц?

\_\_\_\_\_

22) В среднем, получаете ли Вы больше от Ваших частных консультаций, чем от работы в государственной организации?

- а) Да ☐
- б) Нет ☐

23) Какой примерно процент от Вашей основной зарплаты Вы получаете от частных консультаций?

- а) 10 и менее % ☐

- б) 10-20 % ☐
- в) 20-30 % ☐
- г) 30-40 % ☐
- д) Более 50% ☐

24) Настолько Вы согласны или не согласны со следующими положениями по поводу Вашей зарплаты:

<i>Положения</i>	<i>Полностью согласен</i>	<i>Отчасти согласен</i>	<i>Нейтрален</i>	<i>Отчасти не согласен</i>	<i>Не согласен вообще</i>
а. Моя зарплата намного ниже той, которую получают врачи такого же уровня/квалификации, но в других секторах здравоохранения (в государственном/частном мед секторе)	5	4	3	2	1
б. В целом, моя зарплата не соответствует уровню моего образования и опыта	5	4	3	2	1

## V. ВОПРОСЫ, СВЯЗАННЫЕ С НЕФОРМАЛЬНОЙ КОМПЕНСАЦИЕЙ:

В этой части анкеты мы хотели бы узнать об уровне неформальных платежей, которые получают работники сектора здравоохранения. Пожалуйста, ответьте на все вопросы. Если Вы не уверены в ответе, то, пожалуйста, выберите тот, который лучше всего соответствует Вашему пониманию уровня неформальных компенсаций в секторе здравоохранения Казахстана.

25) Знаете ли Вы кого-нибудь, кто когда-либо лично брал на работе деньги или подарки в виде благодарности от своих пациентов?

- а) Да ☐
- б) Нет ☐

26) Что, по-вашему мнению, могло побуждать пациентов платить неформально за услуги? (пожалуйста, выберите столько ответов, сколько необходимо, отмечая соответствующие квадраты)

- а) Боязнь не получить хорошее мед обслуживание ☐
- б) Были вынуждены заплатить врачу и/или администрации больницы ☐
- в) Желание получить мед обслуживание лучшего качества ☐

- г) Пример других пациентов  
 д) Искреннее желание отблагодарить за оказанную помощь  
 е) Другое (*пожалуйста, укажите*) \_\_\_\_\_

☐  
☐  
☐

27) Настолько Вы согласны или не согласны со следующими положениями по поводу неформальных платежей:

<i>Положения</i>	<i>Полностью согласен</i>	<i>Отчасти согласен</i>	<i>Нейтрален</i>	<i>Отчасти не согласен</i>	<i>Не согласен вообще</i>
а. Неформальные платежи являются обычной практикой в стране	5	4	3	2	1
б. Неформальные платежи являются обычной практикой в Вашей организации	5	4	3	2	1
в. Возможность получить неформальный платеж рассматривается, как способ получить дополнительную денежную компенсацию за тяжелый труд врача в дополнение к относительно низкой зарплате	5	4	3	2	1
г. Неформальные платежи дают возможность пациентам получить лучшее лечение/внимание	5	4	3	2	1

## VI. ВОПРОСЫ, КАСАЮЩИЕСЯ ТОГО, КАК ВЫ ВОСПРИНИМАЕТЕ РИСК:

28) По каждой из ситуаций, укажите, пожалуйста, **вероятность** Вашего участия в этом виде деятельности или типе поведения. Выберите число из таблицы внизу, которое лучше описывает Ваше возможное поведение в этих ситуациях.

<i>Ситуация</i>	<i>Весьма</i>	<i>Вероятно</i>	<i>Не уверен</i>	<i>Скорее</i>	<i>Точно нет</i>
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	<i>вероятно</i>			<i>нет</i>	
а. Признаться, что Ваше мнение отличается от мнения Ваших друзей	5	4	3	2	1
б. Просить Вашего начальника повысить Вам зарплату	5	4	3	2	1
в. Пропорить Вашу месячную зарплату по результатам спортивного соревнования (к примеру, футбол, хоккей)	5	4	3	2	1
г. Снимать квартиру с кем-то, кого Вы не очень хорошо знаете	5	4	3	2	1
д. Есть пищу с просроченным сроком годности, которая еще выглядит вполне нормальной	5	4	3	2	1
е. Подделывать чью-то подпись	5	4	3	2	1
ё. Инвестировать в бизнес, который подвержен риску и может оказаться неудачным	5	4	3	2	1
ж. Одолжить другу/ подруге займы деньги в размере Вашей месячной зарплаты	5	4	3	2	1
з. Переехать в другой город	5	4	3	2	1
и. Не надевать ремень безопасности, сидя пассажиром на переднем сидении	5	4	3	2	1
к. Открыто спорить с Вашим начальником в присутствии Ваших коллег	5	4	3	2	1
л. Выдавать чью-то работу за свою собственную	5	4	3	2	1

м. Периодически заниматься опасным спортом (к примеру, альпинизм или прыжки с парашютом)	5	4	3	2	1
н. Выполнять работу, которая Вам нравится, а не ту, которая более престижна, но доставляет меньше удовольствия	5	4	3	2	1
о. Идти домой ночью одному/й в небезопасной части города	5	4	3	2	1

## VII. ВОПРОСЫ ОБ ИЗМЕНЕНИИ СТРАНЫ ПРОЖИВАНИЯ:

29) Рассматривали Вы когда-нибудь идею переезда из Казахстана в Россию?

а) Да ☐

б) Нет ☐

Или в другую страну?

а) Да ☐

б) Нет ☐

30) Настолько Вы согласны или не согласны со следующими заявлениями:

Что, по Вашему мнению, может мотивировать медработников Казахстана переехать в Россию или в другую страну?

<i>Положения</i>	<i>Полностью согласен</i>	<i>Отчасти согласен</i>	<i>Нейтрален</i>	<i>Отчасти не согласен</i>	<i>Не согласен вообще</i>
а. Улучшение условий жизни и работы в этих странах	5	4	3	2	1
б. Более высокая зарплата в этих странах	5	4	3	2	1
в. Наличие работы/ гарантия	5	4	3	2	1

занятости в этих странах					
г. Возможность для развития карьеры/роста в этих странах	5	4	3	2	1
д. Возможность обеспечить лучшее будущее для детей в этих странах	5	4	3	2	1

## VIII. ОБЩАЯ ИНФОРМАЦИЯ:

31) Ваш пол:

- а) Мужчина ☐
- б) Женщина ☐

32) Сколько Вам полных лет? \_\_\_\_\_ лет

33) Ваше этническое происхождение:

- а) Казах ☐
- б) Русский ☐
- в) Другой (пожалуйста, укажите) \_\_\_\_\_ ☐

34) Ваше семейное положение на сегодня?

- а) Холост (никогда не были замужем) ☐
- б) Женат/Замужем ☐
- в) Разведен/Разведена ☐
- г) Живете раздельно ☐
- д) Живете в гражданском браке ☐
- е) Вдовец/Вдова ☐

35) Сколько у Вас детей (пожалуйста, укажите общее количество детей или напишите 0, если у Вас нет детей)?

\_\_\_\_\_

36) В каком году Вы закончили учебу в медицинском ВУЗе (пожалуйста, укажите год)?

\_\_\_\_\_

- 37) Если есть что-либо еще, о чем бы Вы нам хотели сообщить по любой из тем, рассмотренных в этом опроснике, пожалуйста, сообщите в нижерасположенном месте:

**СПАСИБО!**

## APPENDIX B:

### Overall regression results:

### Ordinary Least Squares (OLS) models:

A total of four OLS models were run for this research with results presented in a join Table 12.

#### 1.1. Zero-order OLS model 1:

The responses to the zero-order OLS model 1 indicate the 5 independent variables predict whether physicians in both public and private health care institutions are inclined to find a job with another organization within the next 12 month. The zero-order OLS model 1 includes factors which were important for respondents in making their decision to take a job at their current organization (factorsall), comments about respondents' current job and their overall dissatisfaction with their current job situation (commentsjb); frustration with their salary and agreement with a statement that in general, their salary is significantly lower than medical doctors of the same qualification receive in a different sector (public or private) (sttmntonslrya), possible engagement of respondents in a risky activity or behavior (riskperceptionall), and respondents' current salary (currslry). Collectively, the independent variables determine 7% of the dependent variable with a sig  $F < .01$  (see Table 13).

Interestingly enough, when controlling for other variables, comments about factors which were important for respondents in making their decision to take a job at their current organization (factorsall) have a negative sign suggesting that overall the greater the combination of personal, family and some professional factors which were important initially for respondents in their decision to take a job at their current organization, the less likely they have an inclination to find a job with another organization within the 12 month. In other words, 1 unit increase in respondents' agreement with a combination of factors which were important to take a job at their current organization scale leads to .02 decrease in their inclination to switch from their current job to a new job/activity.

Moreover, respondents' current salary (currslry) also has a negative sign suggesting that the greater the respondents' salary compared to the majority of health professionals in the country, the less likely they would be inclined to find a job with another organization within the 12 month. In other words, every 10000 tenge increase in respondents' current salary scale leads to .05 decrease in or reduction of their inclination to switch from their current job to a new job/activity.

At the same time, comments about respondents' current job and their overall dissatisfaction with their current job situation (commentsjb); frustration with their salary and agreement with a statement that in general, their salary is significantly lower than medical doctors of the same qualification receive in a different sector (public or private) (sttmntonslrya), and possible engagement of respondents in a risky activity or

behavior (riskperceptionall) have positive signs, suggesting that overall agreement of respondents with these statements lead to respondents' inclination to find a job with another organization within the 12 month.

In other words, the stronger respondents' agreement with comments about their current job and it being dissatisfying; the stronger respondents' agreement with a statement on their salary and it being significantly lower than medical doctors of the same qualification receive in a different sector (public or private); and the stronger respondents' agreement with a likelihood of them engaging in risky behavior or activity - the higher their inclination to switch to another organization within the next 12 months.

The prediction equation suggests that 1 unit increase in respondents' job dissatisfaction reflection scale leads to .01 increase in their inclination to find a job with another organization within the 12 month. Moreover, 1 unit increase in respondents' agreement with a statement that in general, their salary is significantly lower than medical doctors of the same qualification receive in a different sector (public or private) scale leads to .11 increase in their inclination to find a job with another organization within the 12 month. In addition, 1 unit increase in the likelihood of physicians' engagement in a risky behavior or activity scale leads to .01 increase in their inclination to find a job with another organization within the 12 month.

T-tests indicate that a combination of factors which were important to take a job at respondents' current organization have a statistically significant negative effect (P-value for factorsall = 0.000) on respondents' inclination to find a job with another organization within the 12 month. Respondents' current salary has a statistically significant negative effect (P-value for currslry = 0.000) on their inclination to switch to another organization within the next 12 month.

At the same time, overall job dissatisfaction, and frustration with respondents' salary and it is being significantly lower than of medical doctors with the same qualification working in a different sector (public or private), and the likelihood of physicians' engagement in a risky behavior or activity have statistically significant positive effects (P-value for commentsjb = 0.001; P-value for sttmntonslarya = 0.000; P-value for riskperceptionall = 0.001) on respondents' inclination to find a job with another organization within the 12 month.

The number of observations is only 1058 out of 1086 available, which suggests that there is approximately 2.57% reduction in a sample size. The overall explanatory power of the model is low, with an  $R^2$  of .07.

The model's F-statistics is highly significant ( $\text{Prob} > F = 0.0000$ ), suggesting that our independent variables jointly have a strong statistical effect on respondents' inclination to both either find a job with another organization within the 12 month or continue working at their current organization since factors which were important in making their decision to take a job at their current organization are still valid and significant for physicians to continue working at their current organization. Similar could be suggested about respondents' current salary with higher salary (compared to the majority of health professionals in the country) being an important factor in respondents' decision to continue working at their current organization.

Overall, these results are to suggest that the intuitive direction for dependent and independent variables that we have hypothesized earlier demonstrates the correctness of our argument, which is that an overall physicians' increased job dissatisfaction and their continuous frustration with their salary compared to physicians of the same qualification in a different sector, and physicians' overall risk-taking or risky behavior lead to the strong inclination for them to find a job with another organization within the 12 month. At the

same time, however, factors which were important in making their initial decision to take a job at their current organization along with their current salary are still valid and significant for physicians to continue working at their current organization.

## 2. OLS model 2 with broader Economic & Health industry issues:

The responses to the OLS model 2 with broader economic and health industry issues indicate the 7 independent variables predict whether physicians in both public and private health care institutions are inclined to find a job with another organization within the next 12 month. The OLS model 2 with broader economic and health industry issues includes factors which were important for respondents in making their decision to take a job at their current organization (factorsall), comments about respondents' current job and their overall dissatisfaction with their current job situation (commentsjb); frustration with their salary and agreement with a statement that in general, their salary is significantly lower than medical doctors of the same qualification receive in a different sector (public or private) (sttmntonslrya), respondents' current salary (currslry), possible engagement of respondents in a risky activity or behavior (riskperceptionall), conditions of the health care system today compared to the end of 1990 - early 2000 (significant for 95% C.I) (cndthctoday2), and whether respondents feel that the Ministry of Health is implementing too many reforms in the country (minhctoomanyreform). Collectively, the independent variables determine 8% of the dependent variable with a sig  $F < .01$  (see Table 12).

Controlling for other variables, variables included in the initial zero-order model continue being statistically significant and remain direction (negative or positive) as they used to have at the zero-order model above. When adding additional variables which are suggested to reflect on broader economic & health industry issues, only two of these variables have an effect on respondents' inclination to find a job with another organization within the 12 month. These are conditions of the health care system today compared to the end of 1990 - early 2000 (significant for 95% C.I) (cndthctoday2) with a positive sign suggesting that the greater the opinion of respondents' that the condition of the system has greatly deteriorated in comparison with earlier years, the more likely these respondents are inclined to find a job with another organization within the 12 month. In other words, 1 unit increase in respondents' agreement with an observation that condition of the health care system has greatly deteriorated in comparison with earlier years scale leads to .05 increase in their inclination to find a job with another organization within the 12 month.

The second variable which was added to the initial model and has an effect on respondents in their inclinations to switch their employment organization is the one which is asking whether respondents feel that the Ministry of Health is implementing too many reforms in the country (minhctoomanyreform). The variable is significant for 95% C.I. and has a negative direction which suggests that the more respondents agree with the statement that the Ministry of Health is implementing too many reforms, the less likely they are inclined to find a job with another organization within the 12 month.

In other words, increased number of reforms implemented by the Ministry could be suggested to be having two effects on practicing physicians in Kazakhstan. For those who have an inclination to find a job with another organization within the 12 month, the large number of implemented reforms creates a barrier to do so. Those physicians, however, who did not have any inclination to find a job with another organization

within the 12 month have in some way received stability of their current employment sector with increased number of reforms that are further reforming the sector. In other words, increase in respondents' agreement that the Ministry of Health is implementing too many reforms scale leads to .09 decrease in or reduction of their inclination to switch to another organization within the next 12 month.

T-tests indicate that a combination of factors which were important to take a job at respondents' current organization have a statistically significant negative effect (P-value for factorsall = 0.000) on respondents' inclination to find a job with another organization within the 12 month. Respondents' current salary has a statistically significant negative effect (P-value for currsly = 0.001) on their inclination to switch to another organization within the next 12 month.

At the same time, overall job dissatisfaction, and frustration with respondents' salary and its being significantly lower than of medical doctors with the same qualification working in a different sector (public or private), and the likelihood of physicians' engagement in a risky behavior or activity have statistically significant positive effects (P-value for commentsjb = 0.001; P-value for sttmntonslarya = 0.001; P-value for riskperceptionall = 0.000) on respondents' inclination to find a job with another organization within the 12 month.

T-tests for two variables which were added to the initial model have statistically significant negative effect (P-value for minhctoomanyreform = 0.012, significant for 95% C.I) on respondents' inclination to find a job with another organization within the 12 month. As well as statistically significant positive effect (P-value for cndthctoday2 = 0.042, significant for 95% C.I), on respondents' inclination to find a job with another organization within the 12 month.

The number of observations is only 1058 out of 1086 available, which suggests that there is approximately 2.57% reduction in a sample size. The overall explanatory power of the model is low, with an  $R^2$  of .08.

The model's F-statistics is highly significant (Prob>F=0.0000), suggesting that our independent variables jointly have a strong statistical effect on respondents' inclination to both either find a job with another organization within the 12 month or continue working at their current organization since factors which were important in making their decision to take a job at their current organization are still valid and significant for physicians to continue working at their current organization. Similar could be suggested about respondents' current salary with higher salary being an important factor is respondents' decision to continue working at their current organization. Increased number of implemented reforms by the Ministry of Health in the country has kept physicians from switching to another organization within the 12 month.

Overall, these results are to suggest that the direction for dependent and independent variables that we have hypothesized earlier demonstrates the correctness of our argument to some extent, which is that an overall physicians' increased job dissatisfaction and their continuous frustration with their salary compared to physicians of the same qualification in a different sector, and physicians' overall risk-taking or risky behavior lead to the strong inclination for them to find a job with another organization within the 12 month. Moreover, the greater the opinion of respondents' that the condition of the health care system has greatly deteriorated in comparison with earlier years, the more likely these respondents are inclined to find a job with another organization within the 12 month.

### 3. OLS model 3 with broader Economic & Health industry issues and control variables:

The responses to the OLS model 3 with broader economic and health industry issues and control variables indicate the 7 independent variables and 3 control variables predict whether physicians in both public and private health care institutions are inclined to find a job with another organization within the next 12 month. The OLS model 3 with broader economic and health industry issues and control variables includes factors which were important for respondents in making their decision to take a job at their current organization (factorsall), comments about respondents' current job and their overall dissatisfaction with their current job situation (commentsjb); frustration with their salary and agreement with a statement that in general, their salary is significantly lower than medical doctors of the same qualification receive in a different sector (public or private) (sttmntonslrya), respondents' current salary (currslry), possible engagement of respondents in a risky activity or behavior (riskperceptionall), conditions of the health care system today compared to the end of 1990 - early 2000 (significant for 95% C.I) (cndthctoday2), and whether respondents feel that the Ministry of Health is implementing too many reforms in the country (minhctoomanyreform). In addition, control variables that are statistically significant are respondents' age and their ethnic background. Collectively, the independent variables determine 11% of the dependent variable with a sig  $F < .01$  (see Table 12).

Controlling for other variables, and when adding control variables to the model covering broader economic & health industry issues, as seen from the above table, two of the control variables have an effect on respondents' inclination to continue working at their current organization rather than to find a job with another organization within the 12 month.

These are age variable (age) with a negative sign suggesting that the older the respondents are, the less likely they are inclined to find a job with another organization within the 12 month. In other words, 1 unit increase in respondents' age year leads to .01 reduction in their inclination to find a job with another organization within the 12 month, net of other variables.

The other variable is ethnicity (ethnicity), which has a negative sign as well suggesting that compared to a non-majority ethnic group (Russians and others), individuals of the majority group (Kazakhs) have .13 less inclination to find a job with another organization within the 12 month, net of other variables.

The rest of the variables included in the initial model covering broader economic & health industry issues continue being statistically significant and remain direction (negative or positive) as they used to have at the beginning.

The prediction equation suggests that 1 unit increase in respondents' agreement with a combination of factors which were important to take a job at their current organization scale leads to .02 decrease in their inclination to switch from their current job to a new job/activity. Every 10000 tenge increase in respondents' current salary scale leads to .03 decrease in or reduction of their inclination to switch from their current job to a new job/activity.

At the same time, 1 unit increase in respondents' agreement that the Ministry of Health is implementing too many reforms scale leads to .10 decrease in or reduction of their inclination to switch to another organization within the next 12 month. Moreover, 1 unit increase in respondents' age year leads to .01 reduction in their inclination to find a job with another organization within the 12 month, net of other

variables. Additionally, as suggested above, compared to a non-majority ethnic group (Russians and others), individuals of the majority group (Kazakhs) have .13 less inclination to find a job with another organization within the 12 month, net of other variables.

Furthermore, 1 unit increase in respondents' job dissatisfaction reflection scale leads to .01 increase in their inclination to find a job with another organization within the 12 month. Moreover, 1 unit increase in respondents' agreement with a statement that in general, their salary is significantly lower than medical doctors of the same qualification receive in a different sector (public or private) scale leads to .09 increase in their inclination to find a job with another organization within the 12 month. 1 unit increase in the likelihood of physicians' engagement in a risky behavior or activity scale leads to .01 increase in their inclination to find a job with another organization within the 12 month. In addition, 1 unit increase in respondents' agreement with an observation that condition of the health care system has greatly deteriorated in comparison with earlier years scale leads to .07 increase in their inclination to find a job with another organization within the 12 month.

T-tests indicate that a combination of factors which were important to take a job at respondents' current organization have a statistically significant negative effect (P-value for *factorsall* = 0.000) on respondents' inclination to find a job with another organization within the 12 month. Respondents' current salary has a statistically significant negative effect (P-value for *currslry* = 0.012, significant for 95% C.I) on their inclination to switch to another organization within the next 12 month. Moreover, respondents' agreement that the Ministry of Health is implementing too many reforms in the country has a statistically significant negative effect (P-value for *minhctoomanyreform* = 0.004) on respondents' inclination to find a job with another organization within the 12 month.

At the same time, overall job dissatisfaction, and frustration with respondents' salary and it is being significantly lower than of medical doctors with the same qualification working in a different sector (public or private); the likelihood of physicians' engagement in risky behavior or activity, and deteriorated condition of the health care system compared to previous years have statistically significant positive effects (P-value for *commentsjb* = 0.022, significant for 95% C. I.); P-value for *sttmntonslarya* = 0.002; P-value for *riskperceptionall* = 0.002; P-value for *cnthctoday2* = 0.007) on respondents' inclination to find a job with another organization within the 12 month.

The T-tests for two variables which were added to the model have statistically significant negative effects on respondents' inclination to find a job with another organization within the 12 month. Respondents' age (P-value for *age* = 0.000) and ethnic background (P-value for *ethnicity* = 0.035, significant for 95% C.I) have statistically significant negative effects on their inclination to switch to another organization within the next 12 month.

The number of observations is only 1058 out of 1086 available, which suggests that there is approximately 2.57% reduction in a sample size. The overall explanatory power of the model is medium, with an  $R^2$  of .11.

The model's F-statistics is highly significant ( $\text{Prob} > F = 0.0000$ ), suggesting that our independent variables jointly have a strong statistical effect on respondents' inclination to both either find a job with another organization within the 12 month or continue working at their current organization since factors which were important in making their decision to take a job at their current organization are still valid and significant for physicians to continue working at their current organization.

Similar could be suggested about respondents' current salary with higher salary being an important factor is respondents' decision to continue working at their current organization. Increased number of implemented reforms by the Ministry of Health in the country has kept physicians from switching to another organization within the 12 month. The older the respondents are the less likely they are interested in switching to another organization. At the same time, the respondents belonging to the majority ethnic group (Kazakhs), leads to their reduced inclination to switch to another organization within the 12 month.

Overall, these results are to suggest that the direction for dependent and independent variables that we have hypothesized earlier demonstrates the correctness of our argument to some extent, which is that an overall physicians' increased job dissatisfaction and their continuous frustration with their salary compared to physicians of the same qualification in a different sector, and physicians' overall risk-taking or risky behavior lead to the strong inclination for them to find a job with another organization within the 12 month. Moreover, the greater the opinion of respondents' that the condition of the health care system has greatly deteriorated in comparison with earlier years, the more likely these respondents are inclined to find a job with another organization within the 12 month.

#### 4. Sensitivity analysis for the OLS model 3 with broader Economic & Health industry issues and control variables:

After running sensitivity test for multicollinearity (as seen from the table below), the average VIF (the variance inflation factor) is not greater than 10 and a  $1/vif$  measure is not less than 0.10 suggesting that the regression is not biased and there is no issue with the model.

#### 5. OLS model 4 with broader Economic & Health industry issues and control variables and interaction terms:

When adding two interaction terms (the combinations of interaction terms used:  $factage=factorsall*age$  and  $commsal=commentsjb*sttmntonslrya$  suggested based on the hypotheses suggested for this research) to the final model (which is the initial zero-order model with variables to reflect on broader economic and health care industry issues and control variables together with interaction terms), only one of them ( $factage$ ) that is suggested to reflect of factors which were important in making their decision to take a job at their current organization and respondents' age, proposing that the older the respondent is the value of factors is becoming greater, has statistical significant added value to the current model. Interaction term's P-value ( $factage$ ) is statistically significant and is 0.001.

When adding interaction terms to the final model ( $factage$  and  $commsal$ ), some of the variables which had statistical significance have become insignificant. These are. The rest of the variables to reflect on factors which were important in making their decision to take a job at their current organization ( $factorsall$ ), respondents' current salary ( $currslry$ , significant for 95% C. I.), the likelihood of physicians' engagement in risky behavior or activity ( $riskperceptionall$ ), deteriorated condition of the health care system compared to

previous years (cndthctoday2), agreement that the Ministry of Health is implementing too many reforms in the country (minhctoomanyreform) and respondents' age are still statistically significant in the final model.

At the same time, variables to reflect on respondents' overall job dissatisfaction, and frustration with respondents' salary and it is being significantly lower than of medical doctors with the same qualification working in a different sector (public or private), as well as their ethnic background are no longer statistically significant in the final model.

After controlling for other variables, as seen from Table 13, the prediction equation suggests that 1 unit increase in respondents' agreement with a combination of factors which were important to take a job at their current organization scale leads to .10 decrease in their inclination to switch from their current job to a new job/activity. Every 10000 tenge increase in respondents' current salary scale leads to .03 decrease in or reduction of their inclination to switch from their current job to a new job/activity. At the same time, 1 unit increase in respondents' agreement that the Ministry of Health is implementing too many reforms scale leads to .11 decrease in or reduction of their inclination to switch to another organization within the next 12 month. Moreover, 1 unit increase in respondents' age year leads to .03 reduction in their inclination to find a job with another organization within the 12 month, net of other variables

Furthermore, 1 unit increase in the likelihood of physicians' engagement in a risky behavior or activity scale leads to .01 increase in their inclination to find a job with another organization within the 12 month. In addition, 1 unit increase in respondents' agreement with an observation that condition of the health care system has greatly deteriorated in comparison with earlier years scale leads to .07 increase in their inclination to find a job with another organization within the 12 month.

T-tests indicate that a combination of factors which were important to take a job at respondents' current organization have a statistically significant negative effect (P-value for factorsall = 0.000) on respondents' inclination to find a job with another organization within the 12 month. Respondents' current salary has a statistically significant negative effect (P-value for currslry = 0.012, significant for 95% C. I.) on their inclination to switch to another organization within the next 12 month. Moreover, respondents' agreement that the Ministry of Health is implementing too many reforms in the country has a statistically significant negative effect (P-value for minhctoomanyreform = 0.002) on respondents' inclination to find a job with another organization within the 12 month. Respondents' age (P-value for age = 0.000) has statistically significant negative effects on respondents' inclination to switch to another organization within the next 12 month.

At the same time, the likelihood of physicians' engagement in a risky behavior or activity have statistically significant positive effects (P-value for riskperceptionall = 0.001) on respondents' inclination to find a job with another organization within the 12 month. Similar could be suggested regarding deteriorated condition of the health care system compared to previous years (P-value for cndthctoday2 = 0.009, significant for 95% C. I.) which has statistically significant positive effect on respondents' inclination to find a job with another organization within the 12 month.

The number of observations is only 1058 out of 1086 available, which suggests that there is approximately 2.57% reduction in a sample size. The overall explanatory power of the model is medium, with an  $R^2$  of .12.

The model's F-statistics is highly significant ( $\text{Prob} > F = 0.0000$ ), suggesting that our independent variables jointly have a strong statistical effect on respondents' inclination to both either find a job with another organization within the 12 month or continue working at their current organization since factors which were important in making their decision to take a job at their current organization are still valid and significant for physicians to continue working at their current organization. Similar could be suggested about respondents' current salary with higher salary being an important factor is respondents' decision to continue working at their current organization. Increased number of implemented reforms by the Ministry of Health in the country has kept physicians from switching to another organization within the 12 month. The older the respondents are the less likely they are interested in switching to another organization.

Overall, these results are to suggest that the direction for dependent and independent variables that we have hypothesized earlier demonstrates the correctness of our argument to some extent, which is that physicians' overall risk-taking or risky behavior lead to the strong inclination for them to find a job with another organization within the 12 month. Moreover, the greater the opinion of respondents' that the condition of the health care system has greatly deteriorated in comparison with earlier years, the more likely these respondents are inclined to find a job with another organization within the 12 month.

## **2.1: Logistic models:**

A total of four Logistic models were run for this research with results presented in a join Table 13. An additional table 12 presents descriptive statistics separately for public and for private health care professionals.

### 1 Zero-order Logistic model 1:

The responses to the zero-order Logistic model 1 indicate the 3 independent variables predict the odds of physicians in both public and private health care institutions to switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector. The zero-order Logistic model 1 includes factors which were important for respondents in making their decision to take a job at their current organization (factorsall), comments about respondents' current job and their overall dissatisfaction with their current job situation (commentsjb), and frustration with their salary and agreement with a statement that in general, their salary is significantly lower than medical doctors of the same qualification receive in a different sector (public or private) (sttmntonslrya). Collectively, the independent variables determine 4% of the dependent variable with a sig  $F < .01$  (see Table 13).

After controlling for other variables, and when looking at factors which were important for respondents' in making their decision to take a job at their current organization (factorsall), the results suggest that 1 unit increase in respondents' agreement with a combination of factors which were important to take a

job at their current organization corresponds to a 3.2 percent decrease<sup>334</sup> in the odds of switching from physicians' current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector.

At the same time, when looking at the comments about respondents' current job (commentsjb), the results suggest that 1 unit increase in respondents' overall dissatisfaction with a set of statements to describe their current job situation corresponds to a 4 percent increase<sup>335</sup> in the odds of switching from physicians' current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector, net of other variables.

Moreover, considering respondents' opinion on their current salary (sttmntonslrya), the results suggest that 1 unit increase in respondents' agreement with a statement that their salary is significantly lower than medical doctors of the same qualification receive in a different sector corresponds to a 21.7 percent increase<sup>336</sup> in the odds of switching from physicians' current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector, net of other variables.

In other words, the stronger respondents' agreement with comments about their current job and it is being dissatisfying; the stronger respondents' agreement with a statement on their salary and it is being significantly lower than medical doctors of the same qualification receive in a different sector (public or private) - the greater the odds of them to switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector. At the same time, the stronger respondents' agreement with factors which were important for respondents in making their decision to take a job at their current organization – the less are the odds for them to switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector.

T-tests indicate that a combination of factors which were important to take a job at respondents' current organization have a statistically significant negative effect (P-value for factorsall = 0.013 at 95% C.I.) on respondents' inclination to switch from their current job to a new job/activity.

At the same time, overall job dissatisfaction, and frustration with respondents' salary and it is being significantly lower than medical doctors of the same qualification in different sector have statistically significant positive effects (P-value for commentsjb = 0.000; P-value for sttmntonslrya = 0.002) on respondents' inclination to switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector.

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<sup>334</sup> Using the formula to interpret logistic regressions – when odd ratio is less than 1.0 (as the case with factorsall) – the formula is  $[1 - \text{odd ratio for factorsall}] \times 100$  or  $[1 - 0.968] \times 100 = 3.2\%$  referring to a unit increase in factorsall corresponds to a 3.2 % decrease in the odds of switching from physicians' current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector

<sup>335</sup> Using the formula to interpret logistic regressions – when odd ratio is greater than 1.0 (as the case with commentsjb and sttmntonslrya) – the formula is  $[\text{odd ratio for commentsjb} - 1] \times 100$  or  $[1.03 - 1] \times 100 = 4\%$  referring to a unit increase in commentsjb corresponds to a 4 % increase in the odds of switching from physicians' current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector

<sup>336</sup> Similar formula applies to sttmntonslrya –  $[1.21 - 1] \times 100 = 21.7\%$  referring to a unit increase in commentsjb corresponds to 21.7% increase in the odds of switching from physicians' current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector

The number of observations is only 1026 out of 1086 available, which suggests that there is approximately 5.5% reduction in a sample size. The overall explanatory power of the model is low, with a pseudo  $R^2$  of .04.

The model's F-statistics is highly significant ( $\text{Prob} > F = 0.0000$ ), suggesting that our independent variables jointly have a strong statistical effect on respondents' inclination to both either switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector or continue working at their current organization since factors which were important in making their decision to take a job at their current organization are still valid and significant for physicians to continue working at their current organization.

Overall, these results are to suggest that the direction for dependent and independent variables that we have hypothesized earlier demonstrates the correctness of our argument to some extent, which is that an overall physicians' increased job dissatisfaction and their continuous frustration with their salary lead to the strong inclination for them to switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector. At the same time, however, factors which were important in making their initial decision to take a job at their current organization are still valid and significant for physicians to continue working at their current organization.

## 2 Logistic model 2 with broader Economic & Health industry issues:

The responses to the Logistic model 2 with broader economic and health industry issues indicate the 3 independent variables predict the odds of physicians in both public and private health care institutions to switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector. The Logistic model 2 with broader economic and health industry issues includes factors which were important for respondents in making their decision to take a job at their current organization (factorsall), comments about respondents' current job and their overall dissatisfaction with their current job situation (commentsjb), and frustration with their salary and agreement with a statement that in general, their salary is significantly lower than medical doctors of the same qualification receive in a different sector (public or private) (sttmntonslrya). Collectively, the independent variables determine 4% of the dependent variable with a sig  $F < .01$  (see Table 13).

When adding additional variables to the initial zero-order model to reflect on broader economic and health care industry issues, it could be suggested that none of the variable added are statistically significant at this point (except for the three of the variables which were statistically significant in the initial zero-order model).

After controlling for other variables, as seen from the above table, and when looking at factors which were important for respondents' in making their decision to take a job at their current organization (factorsall), the results suggest that 1 unit increase in respondents' agreement with a combination of factors which were important to take a job at their current organization corresponds to a 3.2 percent decrease in the odds of switching from physicians' current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector.

At the same time, when looking at the comments about respondents' current job (commentsjb), the results suggest that 1 unit increase in respondents' overall dissatisfaction with their current job situation corresponds to a 3.6 percent increase in the odds of switching from physicians' current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector, net of other variables.

Moreover, considering respondents' opinion on their current salary (sttmntonslrya), the results suggest that 1 unit increase in respondents' agreement with a statement that their salary is significantly lower than medical doctors of the same qualification receive in a different sector corresponds to a 21.7 percent increase in the odds of switching from physicians' current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector, net of other variables.

In other words, the stronger respondents' agreement with comments about their current job and it being dissatisfying; the stronger respondents' agreement with a statement on their salary and it is being significantly lower than medical doctors of the same qualification receive in a different sector (public or private) - the greater the odds of them to switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector to occur. At the same time, the stronger respondents' agreement with factors which were important for respondents' in making their decision to take a job at their current organization – the less are the odds for them to switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector.

T-tests indicate that a combination of factors which were important to take a job at respondents' current organization have a statistically significant negative effect (P-value for factorsall = 0.019 at 95% C.I.) on respondents' inclination to switch from their current job to a new job/activity.

At the same time, overall job dissatisfaction, and frustration with respondents' salary and it is being significantly lower than medical doctors of the same qualification receive in a difference sector have statistically significant positive effects (P-value for commentsjb = 0.001; P-value for sttmntonslrya = 0.003) on respondents' inclination to switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector.

The number of observations is only 1026 out of 1086 available, which suggests that there is approximately 5.5% reduction in a sample size. The overall explanatory power of the model is low, with a pseude  $R^2$  of .04.

The model's F-statistics is highly significant (Prob>F=0.0000), suggesting that our independent variables jointly have a strong statistical effect on respondents' inclination to both either switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector or continue working at their current organization since factors which were important in making their decision to take a job at their current organization are still valid and significant for physicians to continue working at their current organization.

Overall, these results are to suggest that the direction for dependent and independent variables that we have hypothesized earlier demonstrates the correctness of our argument to some extent, which is that an overall physicians' increased job dissatisfaction and their continuous frustration with their salary lead to the strong inclination for them to switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector. At the same time, however, factors which were

important in making their initial decision to take a job at their current organization are still valid and significant for physicians to continue working at their current organization.

### 3. Logistic model 3 with broader Economic & Health industry issues and control variables:

The responses to the Logistic model 3 with broader economic and health industry issues and control variables indicate the 4 independent variables and 2 control variables the odds of physicians in both public and private health care institutions to switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector. The Logistic model 3 with broader economic and health industry issues and control variables includes factors which were important for respondents in making their decision to take a job at their current organization (factorsall), comments about respondents' current job and their overall dissatisfaction with their current job situation (commentsjb); frustration with their salary and agreement with a statement that in general, their salary is significantly lower than medical doctors of the same qualification receive in a different sector (public or private) (sttmntonslrya), and respondents' agreement with a statement that in general their salary does not comply with the level of their education and experience (sttmntonslryb). In addition, control variables that are statistically significant are respondents' belonging to or working for private health care institutions and their age. Collectively, the independent variables determine 10% of the dependent variable with a sig  $F < .01$  (see Table 13).

When adding control variables to the initial zero-order model with variables to reflect on broader economic and health care industry issues, there are three variables that add statistical significant value to the model. As seen from the table above, those variables are respondents' comments on their current salary and agreement with the statement that in general, their salary does not comply with the level of their education and experience, respondents' belonging to or working at the private health care sector and their age.

After controlling for other variables, and when looking at factors which were important for respondents' in making their decision to take a job at their current organization (factorsall), the results suggest that 1 unit increase in respondents' agreement with a combination of factors which were important to take a job at their current organization corresponds to a 3.6 percent decrease in the odds of switching from physicians' current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector.

At the same time, when looking at the comments about respondents' current job (commentsjb), the results suggest that 1 unit increase in their overall dissatisfaction with their current job situation corresponds to a 2.2 percent increase in the odds of switching from physicians' current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector, net of other variables.

Moreover, considering respondents' opinion on their current salary (sttmntonslrya), the results suggest that 1 unit increase in respondents' agreement with a statement that their salary is significantly lower than medical doctors of the same qualification receive in a different sector corresponds to a 19.8 percent increase in the odds of switching from physicians' current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector, net of other variables.

In addition, considering respondents' another opinion on their current salary (sttmntonslryb), the results suggest that 1 unit increase in respondents' agreement with a statement that in general their salary does not comply with the level of their education and experience corresponds to a 15.9 percent increase in the odds of switching from physicians' current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector, net of other variables.

Furthermore, considering respondents' belonging to either public or private health care sector, the results suggest that 1 unit increase in respondents' belonging to or working at the private health care sector corresponds to a 32.6 percent decrease in the odds of switching from physicians' current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector, net of other variables. In other words, physicians working at the private health care sectors are 32.6 percent less likely to switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector than individuals working in the public health care sector.

Additionally, considering respondents' age (age), the results suggest that 1 unit increase in respondents' age corresponds to a 5.5 percent decrease in the odds of switching from physicians' current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector, net of other variables.

In other words, the stronger respondents' agreement with comments about their current job and it is being dissatisfying; the stronger respondents' agreement with a statement on their salary and it is being significantly lower than medical doctors of the same qualification receive in different sector and the salary being not in compliance with the level of their education and experience - the greater the odds for them to switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector.

At the same time, the stronger respondents' agreement with factors which were important for respondents' in making their decision to take a job at their current organization, their belonging to or working at the private health care sector, and the older the respondents are compared to the rest of respondents – the less are the odds for them to switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector.

T-tests indicate that a combination of factors which were important to take a job at respondents' current organization have a statistically significant negative effect (P-value for factorsall = 0.013 at 95% C.I.) on respondents' inclination to switch from their current job to a new job/activity. Respondents' belonging to or working for a private health care sector (P-value for publicprivate1 = 0.014 at 95% C.I.) and their age (P-value for age = 0.000) also have a statistically significant negative effect on their inclination to switch from their current job to a new job/activity.

At the same time, overall job dissatisfaction, and frustration with respondents' salary and it is being significantly lower than medical doctors of the same qualification receive in a different sector, as well as salary and it is not being in compliance with their level of education and experience have statistically significant positive effects (P-value for commentsjb = 0.035 at 95% C.I.; P-value for sttmntonslarya = 0.008; P-value for sttmntonslryb = 0.044 at 95% C.I.) on respondents' inclination to switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector.

The number of observations is only 1026 out of 1086 available, which suggests that there is approximately 5.5% reduction in a sample size. The overall explanatory power of the model is medium, with a pseudo  $R^2$  of .10.

The model's F-statistics is highly significant ( $\text{Prob} > F = 0.0000$ ), suggesting that our independent variables jointly have a strong statistical effect on respondents' inclination to both either switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector or continue working at their current organization since factors which were important in making their decision to take a job at their current organization are still valid and significant for physicians to continue working at their current organization. At the same time, respondents' belonging to or working at the private health care sector and their age and the fact that the older respondents are the less likely they are to switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sectors compared to younger respondents.

Overall, these results are to suggest that the direction for dependent and independent variables that we have hypothesized earlier demonstrates the correctness of our argument to some extent, which is that an overall physicians' increased job dissatisfaction and their continuous frustration with their salary lead to the strong inclination for them to switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector. At the same time, however, factors which were important in making their initial decision to take a job at their current organization, as well as respondents' belonging to or working at private health care institution and their age (older vs younger) are still valid and significant for physicians to continue working at their current organization.

#### 4. Logistic model 3A with broader Economic & Health industry issues and control variables:

Since publicprivate1 variable was statistically significant in the previous model (the initial zero-order model with variables to reflect on broader economic and health care industry issues together with control variables added) it was suggested to make an additional analysis by dividing respondents' population into public and private health care professionals' group to see whether there is a difference in opinion on issues being discussed in this research based on physicians' belonging to or working at either public or private health care institution. The results are the follows, starting with analysis of opinion of physicians working at public health care institutions.

The responses to the Logistic model 3A with broader economic and health industry issues and control variables indicate the 2 independent variables and 1 control variable the odds of physicians in public health care institutions to switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector. The Logistic model 3A with broader economic and health industry issues and control variables includes factors which were important for respondents in making their decision to take a job at their current organization (factorsall) and frustration with their salary and agreement with a statement that in general, their salary is significantly lower than medical doctors of the same qualification receive in a different sector (public or private) (sttmntonslrya). In addition, control variable that is statistically significant are respondents' age. Collectively, the independent variables determine 10% of the dependent variable with a sig  $F < .01$  (see Table 12).

Controlling for other variables, and when separating one of the control variables (publicprivate1 into public and private groups referring to respondents who identified themselves as physicians' working for public health care institutions and physicians' working for private health care institutions) in the model covering broader economic & health industry issues and control variables, we have received an interesting set of results reflecting on respondents' odds to switching from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector.

It could be suggested that public health care professionals who have participated in the research have identified a certain set of factors which is important for them in making their decision to either switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector or continue working at their current organization.

When considering comments about factors which were important for respondents' in making their decision to take a job at their current organization (factorsall), the results suggest that 1 unit increase in respondents' agreement which factors initially important in their decision to take a job at their current organization corresponds to a 4.7 percent decrease in the odds of switching from physicians' current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector, net of other variables.

Moreover, considering respondents' opinion on their current salary (sttmntonslrya), the results suggest that 1 unit increase in respondents' agreement with a statement that their salary is significantly lower than medical doctors of the same qualification receive in a different sector (private one) corresponds to a 33.1 percent increase in the odds of switching from physicians' current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector, net of other variables.

Additionally, considering respondents' age, the results suggest that 1 unit increase in respondents' age corresponds to a 5.5 percent decrease in the odds of switching from physicians' current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector, net of other variables.

In other words, the stronger respondents' agreement with factors which were important for them in making their decision to take a job at their current organization, and the older the respondents are compared to the rest of respondents – the less are the odds for them to switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector. However, the stronger respondents' agreement with a statement on their salary and it is being significantly lower than medical doctors of the same qualification receive in different sector (private one) - the greater the odds for them to switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector.

T-tests indicate that a combination of factors which were important to take a job at respondents' current organization have a statistically significant negative effect (P-value for factorsall = 0.007) on respondents' inclination to switch from their current job to a new job/activity. Respondents' age (P-value for age = 0.000) also has a statistically significant negative effect on their inclination to switch from their current job to a new job/activity. At the same time, overall frustration with respondents' salary and it is being significantly lower than medical doctors of the same qualification receive in a different sector (private one) has statistically significant positive effects (P-value for sttmntonslrya = 0.001) on respondents' inclination to

switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector.

The number of observations is only 701 out of 740 available respondents working in public health care institutions who took part in this research, which suggests that there is approximately 5.27% reduction in a sample size. The overall explanatory power of the model is medium, with a pseudo  $R^2$  of .10.

The model's F-statistics is highly significant ( $\text{Prob} > F = 0.0000$ ), suggesting that our independent variables jointly have a strong statistical effect on public health care professionals who have participated in the research and have identified a certain set of factors which is important for them in making their decision on either find a job with another organization within the 12 month or continue working at their current organization.

Factors which were important in making public health care physicians' decision to take a job at their current organization are still valid and significant for them to continue working at their current organization. Moreover, the older the respondents are the less likely they are interested in switching to another organization from their current public health care institution.

Overall, these results are to suggest that the direction for dependent and independent variables that we have hypothesized earlier demonstrates the correctness of our argument to some extent, which is that public health care physicians' continuous frustration with their salary compared to physicians of the same qualification in a private sector lead to the strong inclination for them to find a job with another organization within the 12 month.

#### 5. Logistic model 3B with broader Economic & Health industry issues and control variables:

The responses to the Logistic model 3B with broader economic and health industry issues and control variables indicate the 2 independent variables and 2 control variables the odds of physicians in private health care institutions to switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector. The Logistic model 3B with broader economic and health industry issues and control variables includes comments about respondents' current job and their overall dissatisfaction with their current job situation (commentsjb) and problems in providing public medical services in the country (problems). In addition, 2 control variables that are statistically significant are respondents' agreement with a suggestion which proposes that physicians should be greater involved and asked by the Ministry of Health for their opinion in relation to the reforms and ways of their implementation in the country (phymoreinvolvinhc) and respondents' age (age). Collectively, the independent variables determine 16% of the dependent variable with a sig  $F < .01$  (see Table 12).

This is an analysis of opinion of physicians working at private health care institutions. Controlling for other variables, as seen from the table above, and when separating one of the control variables (publicprivate1 into public and private groups referring to respondents who identified themselves as physicians' working for public health care institution and physicians' working for private health care institution) in the model covering broader economic & health industry issues and control variables, we have

received an interesting set of results reflecting on respondents' odds of switching from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector.

It could be suggested that private health care professionals who have participated in the research have identified a somewhat different set of factors (compared to their counterparts in public health care sector) which is important for them in making their decision to either switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector or continue working at their current organization.

When looking at the comments about respondents' current job (commentsjb), the results suggest that 1 unit increase in respondents' overall dissatisfaction with a set of statements to describe their current job situation corresponds to a 4.5 percent increase in the odds of switching from physicians' current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector, net of other variables.

Moreover, considering private health care physicians' understanding of problems in providing public medical services in the country, the results suggest that 1 unit increase in respondents' agreement with a combination of problems suggested to limit provision of quality medical services in the public health sector corresponds to a 5 percent increase in the odds of switching from physicians' current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector, net of other variables.

Furthermore, considering number of children that private health care professionals have, the results suggest that 1 unit increase in a number of children that private health care professionals have corresponds to a 121.5 percent increase in the odds of switching from physicians' current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector, net of other variables.

At the same time, when looking at private health care physicians' opinion on a suggestion which proposes that physicians should be greater involved and asked by the Ministry of Health for their opinion in relation to the reforms and ways of their implementation in the country, the results suggest that 1 unit increase in respondents' agreement with this statement corresponds to a 36.8 percent decrease in the odds of switching from physicians' current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector, net of other variables.

Additionally, considering respondents' age, the results suggest that 1 unit increase in respondents' age corresponds to a 7.3 percent decrease in the odds of switching from physicians' current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector, net of other variables.

In other words, the stronger respondents' agreement with a suggestion which proposes that physicians should be greater involved and asked by the Ministry of Health for their opinion in relation to the reforms and ways of their implementation in the country, and the older the respondents are compared to the rest of respondents – the less are the odds for them to switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector. However, respondents' overall dissatisfaction with a set of statements to describe their current job situation, respondents' agreement with a combination of problems suggested to limit provision of quality medical services in the public health sector and the larger the number of the kids that they have - the greater are the odds for them to switch from

their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector.

T-tests indicate that respondents' overall dissatisfaction with a set of statements to describe their current job situation has a statistically significant positive effect (P-value for commentsjb = 0.023, at 95% C.I.) on respondents' inclination to switch from their current job to a new job/activity. Respondents' agreement with a set of problems suggested to limit provision of quality medical services in the public health sector has a statistically significant positive effect (P-value for problems = 0.014, at 95% C.I.) on respondents' inclination to switch from their current job to a new job/activity. Moreover, increased number of children of private health care professionals has a statistically significant positive effect (P-value for children1 = 0.042, at 95% C.I.) on respondents' inclination to switch from their current job to a new job/activity.

On the other hand, respondents' agreement with a suggestion which proposes that physicians should be greater involved and asked by the Ministry of Health for their opinion in relation to the reforms and ways of their implementation in the country has a statistically significant negative effect (P-value for phymoreinvolvinhc = 0.009) on respondents' inclination to switch from their current job to a new job/activity. Respondents' age (P-value for age = 0.000) also has a statistically significant negative effect on their inclination to switch from their current job to a new job/activity.

The number of observations is only 325 out of 346 available respondents working in private health care institutions who took part in this research, which suggests that there is approximately 6.06% reduction in a sample size. The overall explanatory power of the model is high, with a pseude  $R^2$  of .16.

The model's F-statistics is highly significant (Prob>F=0.0000), suggesting that our independent variables jointly have a strong statistical effect on private health care professionals who have participated in the research and have identified a certain set of factors which is important for them in making their decision on either finding a job with another organization within the 12 month or continuing working at their current organization.

Respondents' agreement with a suggestion which proposes that physicians should be greater involved and asked by the Ministry of Health for their opinion in relation to the reforms and ways of their implementation in the country are still valid and significant for them to continue working at their current organization. Moreover, the older the respondents are the less likely they are interested in switching to another organization from their current private health care institution.

Overall, these results are to suggest that the direction for dependent and independent variables that we have hypothesized earlier demonstrates the correctness of our argument to some extent, which is that private health care physicians' continuous dissatisfaction with a set of statements to describe their current job situation, their agreement with a set of problems suggested to limit provision of quality medical services in the public health sector, and increased number of children of private health care professionals lead to the strong inclination for them to find a job with another organization within the 12 month.

#### 6. Logistic model 4 with broader Economic & Health industry issues and control variables and interaction terms:

When adding two interaction terms (the combinations of interaction terms used:  $\text{factage} = \text{factorsall} * \text{age}$  and  $\text{commsal} = \text{commentsjb} * \text{sttmntonslrya}$  suggested based on the hypotheses suggested for this research) to the final model (which is the initial zero-order model with variables to reflect on broader economic and health care industry issues and control variables together with interaction terms), it could be suggested (and seen at the table above) that none of the interaction terms bring statistical significant added value to the model.

At the same time, after adding interaction terms to the final model ( $\text{factage}$  and  $\text{commsal}$ ), some of the variables, which were statistically significant in previous models, have become insignificant ( $\text{factorsall}$  and  $\text{commentsjb}$ ). The rest of the variables to reflect on respondents' opinion on their current salary and their opinion on a statement that their salary is significantly lower than medical doctors of the same qualification receive in a different sector (public or private) ( $\text{sttmntonslrya}$ ), as well as their another opinion on salary and respondents' agreement with a statement that in general their salary does not comply with the level of their education and experience ( $\text{sttmntonslryb}$ ), as well as respondents' belonging to or working at private health care sector and their age are still statistically significant in the final model with added interaction terms.

After controlling for other variables, and when considering respondents' opinion on their current salary ( $\text{sttmntonslrya}$ ), the results suggest that 1 unit increase in respondents' agreement with a statement that their salary is significantly lower than medical doctors of the same qualification receive in a different sector corresponds to a 46 percent increase in the odds of switching from physicians' current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector, net of other variables.

In addition, considering respondents' another opinion on their current salary ( $\text{sttmntonslryb}$ ), the results suggest that 1 unit increase in respondents' agreement with a statement that in general their salary does not comply with the level of their education and experience corresponds to a 16 percent increase in the odds of switching from physicians' current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector, net of other variables.

Furthermore, considering respondents' belonging to either public or private health care sector, the results suggest that 1 unit increase in respondents' belonging to or working at the private health care sector corresponds to a 33 percent decrease in the odds of switching from physicians' current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector, net of other variables. In other words, physicians working at the private health care sectors are 33 percent less likely to switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector than individuals working in the public health care sector.

Additionally, considering respondents' age ( $\text{age}$ ), the results suggest that 1 unit increase in respondents' age corresponds to a 6 percent decrease in the odds of switching from physicians' current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector, net of other variables.

In other words, the stronger respondents' agreement with a statement on their salary and it is being significantly lower than medical doctors of the same qualification receive in different sector and the salary being not in compliance with the level of their education and experience - the greater the odds for them to switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector.

At the same time, respondents' belonging to or working at the private health care sector, and the older the respondents are compared to the rest of respondents – the less are the odds for them to switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector.

T-tests indicate that frustration with respondents' salary and it is not being in compliance with their level of education and experience have statistically significant positive effects (P-value for  $\text{sttmntonslaryb} = 0.043$  at 95% C.I.) on respondents' inclination to switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector. At the same time, respondents' belonging to or working for a private health care sector (P-value for  $\text{publicprivate1} = 0.013$  at 95% C.I.) and their age (P-value for  $\text{age} = 0.000$ ) have a statistically significant negative effect on their inclination to switch from their current job to a new job/activity.

The number of observations is only 1026 out of 1086 available, which suggests that there is approximately 5.5% reduction in a sample size. The overall explanatory power of the model is medium, with a pseudo  $R^2$  of .11.

The model's F-statistics is highly significant ( $\text{Prob} > F = 0.0000$ ), suggesting that our independent variables jointly have a strong statistical effect on respondents' inclination to both either switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector or continue working at their current organization since respondents' belonging to or working at the private health care sector and their age and the fact that the older respondents are the less likely they are to switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sectors compared to younger respondents are still valid and significant for physicians to continue working at their current organization.

Overall, these results are to suggest that the direction for dependent and independent variables that we have hypothesized earlier demonstrates the correctness of our argument to some extent, which is that an overall physicians' continuous frustration with their salary lead to the strong inclination for them to switch from their current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector. At the same time, however, respondents' belonging to or working at private health care institution and their age (older vs younger) are still valid and significant for physicians to continue working at their current organization.

**Table 1:**Average monthly nominal salary of health care workers in Kazakhstan

tenge

	2005	2006	2007	2008	2009
Health care and provision of social services	18 043	21 311	33 059	35 775	45 426

Average monthly nominal salary of health care workers in Kazakhstan and type of ownership

tenge

public

	2005	2006	2007	2008	2009
Health care and provision of social services	17 753	20 854	32 728	34 780	44 974

tenge

private

	2005	2006	2007	2008	2009
Health care and provision of social services	20 198	24 678	35 359	42 595	48 229

tenge

calculated difference between salaries of public and private health care professionals

	2005	2006	2007	2008	2009
Health care and provision of social services	2445	3824	2631	7815	3255

tenge

international organizations (for reference)

	2005	2006	2007	2008	2009
Health care and provision of social services	24 789	32 295	42 177	52 330	61 078

Source: Agency of Statistics of the Republic of Kazakhstan m Labor compensations in Kazakhstan

2005-2009, Annual statistical digest, Astana 2010

**Table 2**

Gender distribution among research participants

---

Male	199
Female	833
Didn't specify	54
Total	1086

**Table 3**

Age distribution among research participants

---

20-25	44
26-30	112
31-35	97
36-40	120
41-45	126
46-50	151
51-55	124
56-60	117
61-65	46
66-70	15
71-75	9
Didn't specify	125
Total	1086

**Table 4**

Ethnic background distribution among research participants

---

Kazakh	659
Russian	270
Other	92

Didn't specify	65
Total	1086

**Table 5**

Marital status distribution among research participants

---

Single	185
Married	640
Divorced	107
Separated	17
Not married, but live together	24
Widowed	58
Didn't specify	55
Total	1086

**Table 6**

Number of children distribution among research participants

---

None	190
1	244
2	368
3	129
4-more	37
Didn't specify	118
Total	1086

**Table 7**

Year of graduation distribution among research participants

---

1958-1960	8
1964-1970	27

1971-1980	212
1981-1990	258
1991-2000	242
2001-2010	224
2011-present	1
Didn't specify	114
Total	1086

**Table 8**

Qualification category distribution among research participants

---

Highest category	318
I category	296
II category	97
Do not have one	65
Chose something else (besides Highest, I or II categories) from the available options	286
Didn't specify	24
Total	1086

**Table 9**

Science degree &amp; specialist's certificate distribution among research participants

---

Doctor of medical sciences	11
Candidate of medical sciences	48
Do not have one	65
Chose something else (besides Doctor & Candidate medical degrees) from the available options	938
Didn't specify	24
Total	1086

Have a specialist's certificate	351
Do not have one	66
Chose something else (besides Specialist's certificate) from the available options	644
Didn't specify	25
Total	1086

**Table 10**

Response rate distribution by regions among research participants

---

Almaty	219
Astana	172
Atyrau	83
Karaganda	100
Kokshetau	106
Semey	119
Shymkent	47
Ust-Kamenogorsk	95
Zheskazgan	145
Total	

**Additional Table 1**

Public vs private health care institution distribution among research participants

---

Public	740
Private	346
Total	1086

**Additional Table 2**

Years of work experience at current work place distribution among research participants

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1-5	370
6-10	184
11-15	134
16-20	113
21-25	84
26-30	55
31-35	45
36-40	34
41-more	11
Didn't specify	56
Total	1086

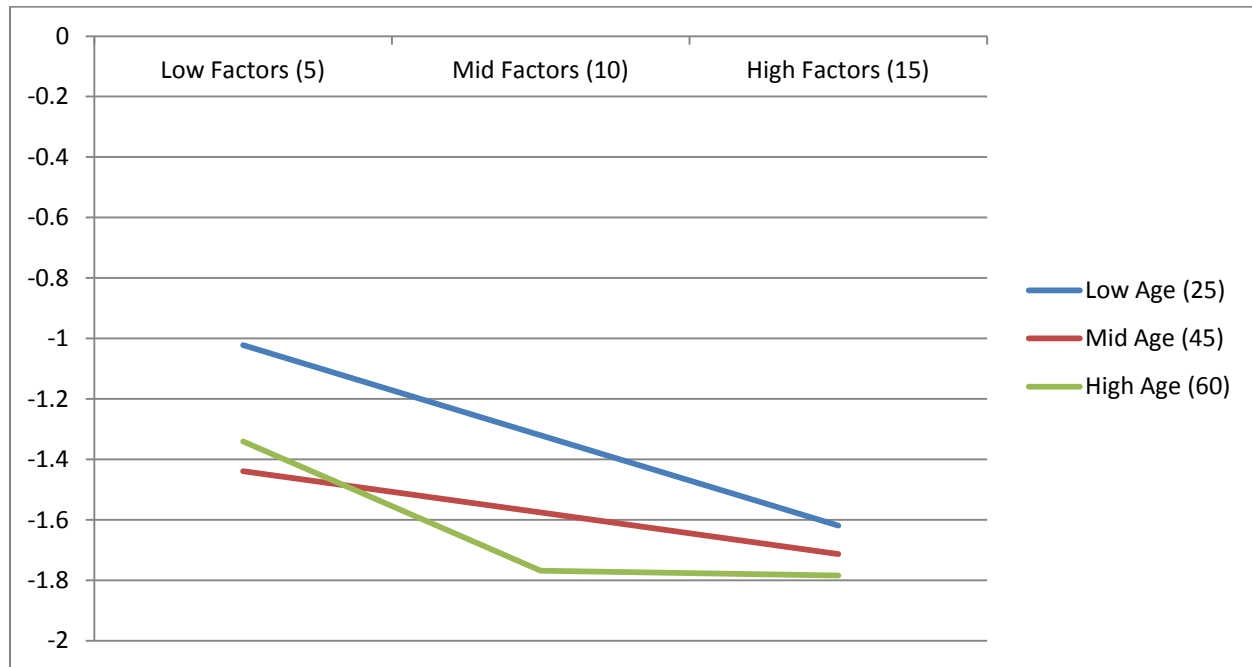
**Table 11:**

	<b>Mean / %</b>	<b>Standard Dev</b>
DV1 (Likelihood of trying to find a job with another organization within the next 12 month)	2.24	1.04
DV2 (Possibility of switching from your current job to a new job/activity that is suggested to be more interesting and fulfilling within the health care sector)	51.27% --	
Factors to take a job	9.43	6.53
Job Dissatisfaction Scale	19.89	7.78
Relative Salary to Others	3.59	1.17
Relative Salary to Education	3.86	1.09
Current Salary (in Kz 10,000)	5.73	2.25
Risk taking Scale	28.47	10.56
Health care Problems Scale	28.05	9.37
Health care Deterioration Scale	2.88	1.21
Government Investing	1.70	1.16
Private Investing	3.12	1.06
Reform Agreement Scale	2.79	0.89
Numerous Reform Agreement Scale	2.21	0.89
Reform Involvement Scale	2.12	0.81
Private sector employment	31.86% --	
Age	44.38	10.99
Kazakh Ethnicity	39.32% --	
Have Children	82.50% --	
N (1058 for DV1 & 1026 for DV2)		

**Table 12:**

	Model 1		
	<b>Public</b>		<b>Private</b>
Factors to take a job	0.95 **		1.00
Job Dissatisfaction Scale	1.02		1.05 *
Relative Salary to Others	1.33 ***		1.09
Relative Salary to Education	1.19		1.20
Current Salary	1.10		0.91
Risk taking Scale	1.01		1.00
Health care Problems Scale	1.01		1.05 *
Health care Deterioration Scale	1.08		1.18
Government Investing	1.05		1.03
Private Investing	0.99		0.95
Reform Agreement Scale	0.96		0.73
Numerous Reform Agreement Scale	0.91		0.92
Reform Involvement Scale	1.00		0.63 **
Age	0.95 ***		0.93 ***
Kazakh Ethnicity	0.75		0.81
Have Children	0.73		2.22 *
N	701		325
F	0.00		0.00
R2	0.09		0.16

	Model 1				Model 2				Model 3				Model 4			
	Reg		Log		Reg		Log		Reg		Log		Reg		Log	
Factors to take a job	-0.03	***	0.97	*	-0.03	***	0.97	*	-0.02	***	0.96	*	-0.10	***	0.96	
Job Dissatisfaction Scale	0.02	***	1.04	***	0.02	***	1.04	***	0.01	*	1.02	*	0.01		1.06	
Relative Salary to Others	0.11	***	1.22	**	0.11	***	1.22	**	0.10	**	1.20	**	0.11		1.46	
Relative Salary to Education	0.01		1.09		0.01		1.08		0.03		1.16	*	0.03		1.16	*
Current Salary	-0.05	***	0.96		-0.05	***	0.95		-0.04	*	0.99		-0.03	*	1.00	
Risk taking Scale	0.01	***	1.01		0.01	***	1.01		0.01	**	1.00		0.01	**	1.00	
Health care Problems Scale					-0.01		1.01		0.00		1.01		0.00		1.01	
Health care Deterioration Scale					0.06	*	1.04		0.07	**	1.10		-0.02	*	1.10	
Government Investing					0.02		1.01		0.02		1.03		0.03		1.03	
Private Investing					0.02		0.89		0.04		0.96		0.04		0.96	
Reform Agreement Scale					-0.04		0.96		-0.06		0.90		-0.06		0.90	
Numerous Reform Agreement Scale					-0.09	*	0.95		-0.11	**	0.90		-0.12	**	0.90	
Reform Involvement Scale					0.02		0.90		0.00		0.85		0.01		0.85	
Private Sector Employment									-0.09		0.67	*	-0.09		0.67	**
Age									-0.01	***	0.95	***	-0.03	***	0.94	***
Kazakh Ethnicity									-0.13	*	0.79		-0.12		0.79	
Have Children									-0.11		1.00		-0.12		1.00	
Factors to take a job X Age													0.00	***	1.00	
Job Dissatisfaction Scale X Relative Salary to Others													0.00		0.99	
N	1058		1026		1058		1026		1058		1026		1058		1026	
F	0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00	
R2	0.07		0.04		0.08		0.04		0.11		0.10		0.12		0.10	

**Graph 1:**

The graph suggests:

For younger physicians:

Younger (age 25-45) physicians having less factors now available to them, but which were important for respondents' in making their decision to take a job at their current organization leads to their greater inclination to switch to another organization within the next 12 month.

For mid-aged physicians:

Mid-age (age 45-60) physicians having less factors now available to them, but which were important for respondents' in making their decision to take a job at their current organization leads to their greater inclination to switch to another organization within the next 12 month.

For older physicians:

Older age (age 60-older) physicians having less factors now available to them, but which were important for respondents' in making their decision to take a job at their current organization leads to their greater inclination to switch to another organization within the next 12 month.