

Central Asian Economic Review

Журнал Қазақстан Республикасының
Ақпарат және коммуникация
министрлігінде тіркелген
ISSN 2224 – 5561



№2 (131) 2020
1996 жылдан бастап
шыға бастады

Негізін қалаушы
«Нархоз Университеті» АҚ

«Нархоз Университеті» АҚ Central Asian Economic Review ғылыми-редакциялық кеңесі

Бас редактор		
С.А. Святос	–	<i>экономика ғылымдарының докторы, профессор, Нархоз Университеті</i>
Редактордың орынбасары		
С.С. Арыстанбаева	–	<i>экономика ғылымдарының докторы, профессор, Нархоз Университеті</i>
Редакциялық Алқа		
А.А. Адамбекова	–	<i>экономика ғылымдарының докторы, профессор, Нархоз Университеті</i>
Л.М. Байтенова	–	<i>экономика ғылымдарының докторы, профессор, Нархоз Университеті</i>
Ш.М. Қантарбаева	–	<i>экономика ғылымдарының докторы, профессор, Нархоз Университеті</i>
А.М. Сейітқазиева	–	<i>экономика ғылымдарының докторы, профессор, Нархоз Университеті</i>
Ж. Симанавичене	–	<i>экономика ғылымдарының докторы, профессор, Mykolas Romeris Университеті</i>
Ш.А. Смағұлова	–	<i>экономика ғылымдарының докторы, профессор, Нархоз Университеті</i>
Ұ.А. Текенов	–	<i>экономика ғылымдарының докторы, профессор, Нархоз Университеті</i>
С. И. Умирзақов	–	<i>экономика ғылымдарының докторы, профессор, Нархоз Университеті</i>
Е.А. Абеннова	–	<i>педагогика ғылымдарының кандидаты, қауымдастырылған профессор, Нархоз Университеті</i>
А. Акимов	–	<i>PhD, профессор, Griffith Университеті</i>
Л.Қ. Баймағамбетова	–	<i>экономика ғылымдарының кандидаты, профессор, Нархоз Университеті</i>
К. Браувайлер	–	<i>PhD, профессор, Қолданбалы зерттеулер Университеті</i>
Ж. М. Дуйсенбекова	–	<i>экономика ғылымдарының кандидаты, қауымдастырылған профессор, Нархоз Университеті</i>
М. Ж. Жарылқасинова	–	<i>э.ғ.к., доцент «Нархоз Университеті» АҚ</i>
Р. Елшибаев	–	<i>экономика ғылымдарының кандидаты, профессор, Нархоз Университеті</i>
Д. Ким	–	<i>PhD, зерттеуші профессор, Нархоз Университеті</i>
Т. Медени	–	<i>PhD, профессор, Yildirim Beazit University</i>
Е. Оскенбаев	–	<i>PhD, зерттеуші профессор, СДУ</i>
М. М. Рыскулова	–	<i>экономика ғылымдарының кандидаты, қауымдастырылған профессор, Нархоз Университеті</i>
А.Ж. Сарсенбаева	–	<i>«Фортуна Полиграф» баспасы ЖШС-нің бас директоры, журналдың атқарушы редакторы</i>
Н.Ж.Айтенов	–	<i>Қолданбалы зерттеулер институтының бас маманы, Нархоз Университеті</i>

Central Asian Economic Review

Журнал зарегистрирован в
Министерстве информации и
коммуникаций Республики Казахстан
ISSN 2224 – 5561



№2 (131) 2020
Издается с 1996 года
Учредитель
АО «Университет Нархоз»

Редакционный совет Central Asian Economic Review АО «Университет Нархоз»

Главный редактор
С.А. Святлов

доктор экономических наук, профессор, Университет Нархоз»

Заместитель редактора
С.С. Арыстанбаева

доктор экономических наук, профессор, Университет Нархоз

Редакционная коллегия

А.А.Адамбекова	–	<i>доктор экономических наук, профессор, Университет Нархоз</i>
Л.М.Байтенова	–	<i>доктор экономических наук, профессор, Университет Нархоз</i>
Ш.М.Кантарбаева	–	<i>доктор экономических наук, профессор, Университет Нархоз</i>
А.М.Сейткадиева	–	<i>доктор экономических наук, профессор, Университет Нархоз</i>
Ж. Симанавичене	–	<i>доктор экономических наук, профессор, Университет Mykolas Romeris</i>
Ш.А.Смагулова	–	<i>доктор экономических наук, профессор, Университет Нархоз</i>
У.А.Текенов	–	<i>доктор экономических наук, профессор, Университет Нархоз</i>
С.И.Умирзаков	–	<i>доктор экономических наук, профессор, Университет Нархоз</i>
Е.А.Абенова	–	<i>кандидат педагогических наук, ассоциированный профессор, Университет Нархоз</i>
А.Акимов	–	<i>PhD, профессор, Университет Griffith</i>
Л.К.Баймагамбетова	–	<i>кандидат экономических наук, профессор, Университет Нархоз</i>
К.Браувайлер	–	<i>PhD, профессор, Университет прикладных исследований</i>
Ж.М.Дюсембекова	–	<i>кандидат экономических наук, ассоциированный профессор, Университет Нархоз</i>
М.Ж.Жарылкасинова	–	<i>кандидат экономических наук, ассоциированный профессор, Университет Нархоз</i>
Р.Елшибаев	–	<i>кандидат экономических наук, профессор, Университет Нархоз</i>
Д.Ким	–	<i>PhD, профессор-исследователь, Университет Нархоз</i>
Т.Медени	–	<i>PhD, профессор, Yildirim Beazit University</i>
Е. Оскенбаев	–	<i>PhD, профессор-исследователь, СДУ</i>
М.М.Рыскулова	–	<i>кандидат экономических наук, ассоциированный профессор, Университет Нархоз</i>
А.Ж.Сарсенбаева	–	<i>ген. директор ТОО «Издательство «Фортуна Полиграф», ответственный редактор журнала</i>
Н. Ж. Айтенов	–	<i>главный специалист Института прикладных исследований, Университет Нархоз, технический редактор журнала</i>

Central Asian Economic Review

This Journal is Registered in the Ministry
of Information and Communication of
The Republic of
Kazakhstan

ISSN 2224 – 5561



Volume 2 No. 131, 2020

*The journal has been published
since 1996*

The Founder
JSC «Narxoz University»

Editorial Board Central Asian Economic Review JSC «Narxoz University»

Chief Editor

S.A. Svyatov

Doctor of Economics, Professor, Narxoz University

Deputy Editor

S.S. Arystanbayeva

Doctor of Economics, Professor, Narxoz University

Editorial Board

A.A. Adambekova

– *Doctor of Economics, Professor, Narxoz University*

L.M. Baitenova

– *Doctor of Economics, Professor, Narxoz University*

Sh.M. Kantarbayeva

– *Doctor of Economics, Professor, Narxoz University*

A.M. Seitkaziyeva

– *Doctor of Economics, Professor, Narxoz University*

Z. Simanaviciene

– *Doctor of Economics, Professor, Mykolas Romeris University*

Sh.A. Smagulova

– *Doctor of Economics, Professor, Narxoz University*

U.A. Tekenov

– *Doctor of Economics, Professor, Narxoz University*

S.Y. Umirzakov

– *Doctor of Economics, Professor, Narxoz University*

E.A. Abenova

– *Candidate of Pedagogical Sciences, Associate Professor, Narxoz University*

A. Akimov

– *PhD, Professor Griffith University*

L.K. Baimagambetova

– *Candidate of Economic Sciences, Professor, Narxoz University*

C. Brauweiler

– *PhD, Professor, University of Applied Sciences*

Zh. M. Dyussebekova

– *Candidate of Economic Sciences, Associate Professor, Narxoz University*

M.Zh. Zharylkasinova

– *Candidate of Economic Sciences, Associate Professor, Narxoz University*

R. Yelshibaev

– *Candidate of Economic Sciences, Professor, Narxoz University*

D. Kim

– *PhD, Professor, Narxoz University*

T. Medeni

– *PhD, Professor, Yildirim Beazit University*

E. Oskenbayev

– *PhD, research professor, SDU*

M.M. Ryskulova

– *Candidate of Economic Sciences, Associate Professor, Narxoz University*

A.Zh. Sarsenbayeva

– *Executive editor, Director of “Fortuna Polygraph” Publishing house*

N. Zh. Aitenov

– *Lead specialist of Applied Research Institute, Narxoz University,*

МАЗМҰНЫ
СОДЕРЖАНИЕ

МЕМЛЕКЕТ ЖӘНЕ БИЗНЕС: БАСҚАРУ ТЕОРИЯСЫ МЕН ТӘЖІРИБЕСІ
ГОСУДАРСТВО И БИЗНЕС: ТЕОРИЯ И ПРАКТИКА УПРАВЛЕНИЯ

CONCEPTUAL BASES OF PUBLIC REGULATION OF SCIENTIFIC PERSONNEL MOBILITY Г. Н. Сансызбаева, Е. Нурулы, А. С. Ақтымбаева, А. Ж. Сапиева.....	8
КОНЦЕПЦИЯ ВНЕДРЕНИЯ ПРОЕКТНО-ОРИЕНТИРОВАННОГО УПРАВЛЕНИЯ В ГОСУДАРСТВЕННЫХ ОРГАНАХ РЕСПУБЛИКИ КАЗАХСТАН О. К. Джолдасбаев, Д. Ж. Рахматуллаева	25
GOVERNMENT SUPPORT IN THE DEVELOPMENT OF KAZAKHSTAN'S PRODUCERS Л. Р. Гимранова, Т. П. Притворова, Г. И. Гимранова	37
ҚАЗАҚСТАНДАҒЫ ҚАЛАЛЫҚ АГЛОМЕРАЦИЯЛАРДЫҢ ИННОВАЦИЯЛЫҚ ДАМУЫН МЕМЛЕКЕТТІК РЕТТЕУ Г. Ғалымқызы, Л. Ж. Аширбекова	47
ЭФФЕКТИВНОСТЬ ТЕРРИТОРИАЛЬНЫХ ПРОГРАММ РАЗВИТИЯ И КАЧЕСТВО ЖИЗНИ НАСЕЛЕНИЯ Г. О. Спабеков	57

ҰЛТТЫҚ ЭКОНОМИКА: ДАМУ ВЕКТОРЛАРЫ
НАЦИОНАЛЬНАЯ ЭКОНОМИКА: ВЕКТОРЫ РАЗВИТИЯ

HYPOTHESES OF KAZAKHSTAN COMPANIES ASSESMENT AND THEIR IMPACT ON MANAGERIAL DECISION MAKING А. А. Адамбекова, А. О. Туреханова, Ж. Бекболатова.....	66
ВОПРОСЫ ТРАНСФОРМАЦИИ СТРУКТУРЫ ЭКОНОМИКИ КАЗАХСТАНА: АНАЛИЗ ПРИЧИН И СЛЕДСТВИЙ Г. К. Аймагамбетова , А. Т. Абдикаримова.....	83
ҚАЗАҚСТАН РЕСПУБЛИКАСЫНЫҢ ИННОВАЦИЯЛЫҚ ДАМУЫ БАРЫСЫНДА АДАМ КАПИТАЛЫНА ИНВЕСТИЦИЯ ҚҰЮ МӘСЕЛЕЛЕРІ Ж. О. Тумбай, М. К. Орынбасаров	96
FOOD SECURITY: THEORETICAL REVIEW AND STRUCTURE OF VIEWS А. Т. Тлеубердинова, О. К. Слинкова, П. К. Салибекова.....	107
КӘСІПОРЫННЫҢ ЭКОНОМИКАЛЫҚ ПОТЕНЦИАЛЫН БАҒАЛАУ ЕРЕКШЕЛІКТЕРІ Р. Қ. Елшібаев, А. М. Мырзатай.....	118

ҚАРЖЫ ЖӘНЕ ЕСЕП
ФИНАНСЫ И УЧЕТ

ҚАЗАҚСТАНДАҒЫ ҚҰРЫЛЫС КӘСІПОРЫНДАРЫНДА БУХГАЛТЕРЛІК ЕСЕПТІ ҚАЗІРГІ КЕЗЕҢДЕГІ ҰЙЫМДАСТЫРУ ЕРЕКШЕЛІКТЕРІ С. С. Сапарбаева, Р. М. Иманбекова.....	131
--	-----

МЕТОДОЛОГИЧЕСКИЕ ОСНОВЫ ФИНАНСОВОГО МЕХАНИЗМА РАЗВИТИЯ ВОЗОБНОВЛЯЕМОЙ
ЭНЕРГЕТИКИ В ЗАРУБЕЖНОЙ ПРАКТИКЕ
Г. Ж. Жунусова..... 143

ОЦЕНКА РЫНКА КРЕДИТОВАНИЯ СУБЪЕКТОВ МАЛОГО И СРЕДНЕГО БИЗНЕСА КАЗАХСТАНА:
СРАВНИТЕЛЬНЫЙ АНАЛИЗ И ПЕРСПЕКТИВЫ РАЗВИТИЯ
Е. М. Крупина, И. В. Селезнева..... 157

**КӘСІПКЕРЛІК ЖӘНЕ ТУРИЗМ
ПРЕДПРИНИМАТЕЛЬСТВО И ТУРИЗМ**

ФАКТОРНЫЙ АНАЛИЗ РЕПУТАЦИОННОГО МЕНЕДЖМЕНТА МЕДИЦИНСКИХ ОРГАНИЗАЦИЙ
ГОРОДА АЛМАТЫ
С. Тасжарганов, Т. С. Саткалиева 167

КОМПЛЕКСНАЯ ОЦЕНКА ПОТЕНЦИАЛА АЛМАТИНСКОЙ ОБЛАСТИ В НАПРАВЛЕНИИ
РАЗВИТИЯ ЛЕЧЕБНО- ОЗДОРОВИТЕЛЬНОГО ТУРИЗМА
Е. А. Абенова, С. З. Сайдуллаев..... 170

ОЦЕНКА РАЗВИТИЯ МАЛОГО И СРЕДНЕГО ПРЕДПРИНИМАТЕЛЬСТВА В РЕСПУБЛИКЕ
КАЗАХСТАН НА ОСНОВЕ ИНТЕГРАЛЬНОГО ИНДЕКСА
В. Р. Зарубина, М. Ю. Зарубин 187

МАРКЕТИНГОВЫЕ ИССЛЕДОВАНИЯ ПРИВЕРЖЕННОСТИ ПОТРЕБИТЕЛЕЙ ОРГАНИЧЕСКИХ
ЛЕКАРСТВЕННЫХ СРЕДСТВ
Н. А. Алиева, А. С. Манап 195

**ЗИЯТКЕРЛІК ӘЛЕУЕТТІ БАСҚАРУ
УПРАВЛЕНИЕ ИНТЕЛЛЕКТУАЛЬНЫМ ПОТЕНЦИАЛОМ**

ЗИЯТКЕРЛІК МЕНШІК ОБЪЕКТІЛЕРІН КОММЕРЦИЯЛАНДЫРУДЫҢ МЕХАНИЗМІ
А. С. Кулембаева 210

ЗИЯТКЕРЛІК ӘЛЕУЕТ ЕЛ ЭКОНОМИКАСЫНЫҢ ДАМУ ФАКТОРЫ РЕТІНДЕ
Л. К. Саналиева, С. А. Рахимова..... 221

О МОДЕЛЬНОМ ИНСТРУМЕНТАРИИ ПРОГНОЗИРОВАНИЯ СПРОСА НА ОБЪЕКТЫ
ИНТЕЛЛЕКТУАЛЬНОЙ СОБСТВЕННОСТИ
Г. Б. Бермухамедова 233

MPHTI: 10.17.47; 12.79.51

JEL Classification: J62, J63, J68, F22

CONCEPTUAL BASES OF PUBLIC REGULATION
OF SCIENTIFIC PERSONNEL MOBILITY

G. N. Sansyzbayeva¹, Ye. Nuruly², A. S. Aktymbayeva³, A. Zh. Sapiyeva⁴
^{1, 2, 3, 4}Al-Farabi Kazakh National University, Almaty, Republic of Kazakhstan

ABSTRACT

Purpose of research – conceptualize and systematically study theoretical aspects of public regulation of scientific personnel mobility based on study of approaches to regulating intellectual migration processes.

Research methodology was based on the contemporary theory of migration in national dimension. Also, within the framework of this study, it is possible to identify the main conceptual model of intellectual migration policy of the state, where the system model was chosen as the basis. In addition, methods of public administration/regulation and political science analysis were widely used, such as comparative political science method, system approach, institutional analysis, and predictive method.

Originality/value of research lies in the fact that on the basis of a systematic study of theoretical-methodological aspects of scientific personnel mobility and intellectual migration, the main approaches to public regulation are identified and knowledge in this area is systematized.

Findings – it was identified that public regulation of scientific personnel mobility and intellectual migration should be systematic and implemented primarily on the basis of conceptual shifts in migration policy, accompanied by various mechanisms for attracting highly-skilled scientists, taking into account needs of different countries' economies and creating favorable conditions for their activities.

Keywords – scientific personnel mobility, intellectual migration, public regulation, brain drain, skilled labour.

ҒЫЛЫМИ КАДРЛАРДЫҢ ҰТҚЫРЛЫҒЫН МЕМЛЕКЕТТІК РЕТТЕУДІҢ
ТҰЖЫРЫМДАМАЛЫҚ НЕГІЗДЕРІ

Г. Н. Сансызбаева¹, Е. Нұрұлы², А. С. Ақтымбаева³, А. Ж. Сапиева⁴
^{1, 2, 3, 4}Әл-Фараби атындағы қазақ ұлттық университеті,
Алматы, Қазақстан Республикасы

АНДАТПА

Зерттеудің мақсаты – зияткерлік көші-қон процестерін реттеу тәсілдерін зерттеу негізінде ғылыми кадрлардың ұтқырлығын мемлекеттік реттеудің теориялық аспектілерін тұжырымдау және жүйелі зерттеу.

Әдіснамасы – зерттеу жалпы мемлекеттік өлшемдегі көші-қонның заманауи теориясына негізделген. Сондай-ақ, осы зерттеу шеңберінде негізі жүйелік модель таңдалған мемлекеттің зияткерлік көші-қон саясатының негізгі тұжырымдамалық моделін бөліп көрсетуге болады. Бұдан басқа, зерттеу процесінде мемлекеттік басқару/реттеу және саяси талдау әдістері кеңінен қолданылды: салыстырмалы-саяси әдіс, жүйелі тәсіл, институционалды талдау және болжамдық әдіс.

Зерттеудің бірегейлігі / құндылығы – ғылыми кадрлар ұтқырлығының және зияткерлік көші-қонның теориялық-әдіснамалық аспектілерін жүйелі зерттеу негізінде мемлекеттік реттеудің негізгі тәсілдерінің анықталуымен және осы саладағы білімнің жүйелендірілгенімен айқындалады.

Зерттеу нәтижелері – ғылыми кадрлардың ұтқырлығын және зияткерлік көші-қонды мемлекеттік реттеу жүйелі сипатқа ие болуы және бірінші кезекте әртүрлі елдердің экономикаларының қажеттіліктерін ескере отырып, жоғары білікті мамандар мен ғалымдарды тартудың әртүрлі тетіктерімен қоса жүретін көші-қон саясатындағы тұжырымдамалық өзгерістер негізінде және олардың қызметі үшін қолайлы жағдайлар жасау негізінде іске асырылуы тиіс екені анықталды.

Түйінді сөздер: ғылыми кадрлардың ұтқырлығы, зияткерлік көші-қон, мемлекеттік реттеу, зиялылардың жылыстауы, білікті кадрлар.

КОНЦЕПТУАЛЬНЫЕ ОСНОВЫ ГОСУДАРСТВЕННОГО РЕГУЛИРОВАНИЯ МОБИЛЬНОСТИ НАУЧНЫХ КАДРОВ

Г. Н. Сансызбаева¹, Е. Нурулы², А. С. Ақтымбаева³, А. Ж. Сапиева⁴

^{1, 2, 3, 4}Казахский национальный университет имени аль-Фараби,

Алматы, Республика Казахстан

АННОТАЦИЯ

Цель исследования – концептуализация и системное исследование теоретических аспектов государственного регулирования мобильности научных кадров на основе изучения подходов к регулированию процессов интеллектуальной миграции.

Методология – исследование базировалось на современной теории миграции в общегосударственном измерении. Также, в рамках данного исследования, является возможным выделить основную концептуальную модель интеллектуальной миграционной политики государства, где основой была выбрана системная модель. Помимо этого, в процессе работы широко использовались методы государственного управления/регулирования и политологического анализа, такие как сравнительно-политологический метод, системный подход, институциональный анализ, а также прогностический метод.

Оригинальность/ценность исследования заключаются в том, что на основе системного изучения теоретико-методологических аспектов мобильности научных кадров и интеллектуальной миграции выявлены основные подходы к государственному регулированию и систематизированы знания в этой области.

Результаты исследования – было выявлено, что государственное регулирование мобильности научных кадров и интеллектуальной миграции должны носить системный характер и реализовываться в первую очередь на основе концептуальных сдвигов в миграционной политике в целом, сопровождающимися различными механизмами привлечения высококвалифицированных специалистов и ученых с учётом потребностей экономик разных стран и создания благоприятных условий для их деятельности.

Ключевые слова: мобильность научных кадров, интеллектуальная миграция, государственное регулирование, утечка умов, квалифицированные кадры.

INTRODUCTION

At the current stage of formation and development of a market economy in the world, problems of applying new methods of public administration/regulation of scientific personnel, which allow increasing the intellectual potential of the country, are of particular importance. Relevance of the research topic is due to leading role of research and planning of the scientific personnel mobility. Nevertheless, national developments devoted to mobility analysis are fragmentary and limited. There are practically no comprehensive, systematic studies on public regulation of scientific personnel mobility in domestic science. The main problem of mobility of scientists, understood as a change of position in the professional and social structure of society, is not fully disclosed in domestic science.

Moreover, recently, mobile flows of scientists between countries/regions with different levels of scientific development have been given increasing attention in the context of discussions on migration of skilled

workforce. Although mobility of scientists and associated exchange of knowledge are elements of the current knowledge circulation process [1], and while relationship between human flows and knowledge flows may be more complex than is often assumed in the “brain drain” discourse [2], an unbalanced outflow of scientists is detrimental to countries that are unable to maintain their skilled human resources [3].

In itself, mobility is an extremely complex and diverse phenomenon, not limited to the elementary “movement” from one country to another or from one organization to another, it is accompanied by a number of social causes and consequences. First of all, mobility is associated with a change in the position of an individual in a public space, with an increase or decrease in status or “value”, in particular, in the labor market. Considering mobility as a social process on a par with physical movements implies studying the modification of the individual's position in social hierarchies and his ability to mobilize resources of various kinds in his activity. It should be noted that due to its complexity and uncertainty of many aspects, weak theoretical study and insufficiently clear definition of the boundaries of phenomena, the problems of migration of scientists from a country are often described as a change in theoretically uninterpreted positions in some amorphously represented social and professional structure [4]. Therefore, mobility is not only mobility, but also the ability to move immediately, to act.

In the study of Zhuravleva & Miller [4], definition of the scientific personnel mobility is given as follows: the mobility of scientific personnel is the ability of scientists to change specialization, place of residence of personnel, object of research, and place of work.

Almost the same opinion is also expressed by Armstrong [5], who in his work cites labor mobility as the ability of labor force to move from one place to another, from one profession to another, from one job to another, or from one industry to another. Moreover, he distinguishes types of mobility – depending on the direction of movement, mobility can be vertical and horizontal, professional and geographical, internal and external. If mobility does not lead to a change in the employee's status, it is called horizontal, and if the status changes, then mobility is considered vertical [5]. It is worth noting that this judgment can be successfully applied to the scientific personnel mobility.

Depending on the type of mobility, the categories of labor resources that are involved in it also differ. So, according to the Chinese scientist Chen [6], skilled workers have low professional mobility, but have high geographical mobility; low-skilled or unskilled workers have a high degree of mobility of both types. Labor mobility has a serious impact on ongoing socio-economic processes, while low labor mobility leads to structural unemployment, and high mobility contributes to wage growth [7-8].

Alongside to the concept of mobility, modern science has a similar meaning to the term “migration”. Rybakovsky presented his own vision of the difference between the concepts of “mobility” and “migration” [9]. By population migration Rybakovsky means territorial movement, and by mobility – the ability to migrate, that is, potential migration activity. It follows that mobility is readiness to move. Migration is the very fact of movement.

Migration is one of the most important population problems and is considered not only as a simple mechanical movement of people, but as a complex social process, that affects many aspects of socio-economic life [10]. It is also worth mentioning that in general, territorial migrations (movements) are divided into external migrations (emigration and immigration) outside the state and internal migrations – moves within the state borders of one state [11]. However, in the framework of this paper we will only consider external migrations.

Appeal to history, it can be noted that the transition to post-industrial society has significantly increased the role of scientific and engineering work in the socio-economic development of countries, in the effective use of available resources [12]. As the American scientist P. Drucker notes, “The real capital of developed economy is knowledge, and intellectual workers have become the group that determines values and norms of society” [13]. The natural consequence has been the rapid development of the scientific personnel market and qualified specialists (especially in the field of scientific services), the multiplication of the number of scientists, managers, professionals, growing mobility of relevant staff.

In this regard, an important methodological remark should be made: in any historical era, the process of scientific and technological development should be considered as universal and overcoming any obstacles.

One of the most common forms of such overcoming is the continuous spatial movement of talented people, carriers of advanced scientific knowledge, across various, including ethnic and national borders [14].

Indeed, history of the world civilization development is the history of intellectual migration. Already medieval universities tried to raise their prestige by poaching scientists from universities in other countries. History also knows many examples when people who were sent to study abroad refused to return to their homeland.

MAIN PART OF THE RESEARCH

Research Methods. Methodology of this study was based on the contemporary theory of migration in the national dimension. In this case, impact of intellectual migration flows on economy of the state and the national identity of its citizens (in particular, scientific personnel), the system of domestic relations and political culture, on human potential (intellectual potential) of the state is considered in theoretical aspect. One of the main issues studied within this dimension is control of intellectual migration flows and, accordingly, development of mechanisms to inhibit or stimulate the scientific personnel mobility of, as well as “brain drain” from the country. In other words, it refers to the migration policy of the state in relation to personnel in the field of scientific and/or scientific and technical activity.

Also, within the framework of this study, it is possible to identify the main conceptual model of the state's intellectual migration policy, where the “system model” was chosen as the basis. In this context, intellectual migration policy is considered as part of the international and national state political system for regulating this process.

Aside from that, various general scientific and special methods were used in the study of public regulation of scientific personnel mobility. Among the scientific methods used, “analysis” and “synthesis” were substantial significance. Using them, for example, methods (impact) of public regulation are identified; various conceptual approaches to interpretation of the concepts of “intellectual migration” and others are revealed. The paper also used the logical method, the comparative method (competing concepts of intellectual emigration were identified), and the extrapolation method. Moreover, in the course of the research, methods of public administration/regulation and political science analysis were widely used: comparative political science method, system approach, institutional analysis, and predictive method.

Thus, in this paper, the methodology of public regulation should be understood as a totality of existing goals, tasks, forms of public regulation, methodological techniques and methodological tools that form the method of public regulation of the scientific personnel mobility and/or intellectual migration.

Results and Discussion. Intensive development, use and development of complex technologies, wide distribution of computer and information technology imply the availability and use of highly skilled labor resources of a new type [15]. It is for this reason that countries have started to implement targeted policies to generate such resources, and have also tried to encourage immigration of workers suitable for employment in the field of intellectual activity. As a result, there was a kind of migration of the population as a result of the poaching of highly skilled specialists, the so-called “intellectual migration” or “brain drain”.

Permanent intellectual migration, equivalent to emigration and called “brain drain”, is departure from a country and termination of its activities for a long period (often forever) of scientific and other creative intelligentsia, which largely determines the cultural, scientific, technical and socio-economic appearance of society [16]. The exodus of potential specialists (students, master students, Ph.D. students, and interns) from the country is also considered as a “brain drain”.

The impact of international mobility on the economic characteristics of the innovation system has not been sufficiently studied yet, as it is complex and multifaceted. Research conducted on the basis of data on the mobility of scientific personnel in the United States [17-18] allows us to identify a number of economic effects, both positive and negative, that arise as a result of the scientific personnel mobility. Table 1 summarizes the main economic effects at the level of recipient countries (receiving foreign staff) and donors (where scientists leave from), as well as global effects that cannot be attributed to a single country.

The most widely discussed are negative effects for donor countries (“brain drain”) and positive effects for recipient countries (increased R&D effectiveness and the development of innovative activity). At the same time,

the data in table 1 allow us to conclude that there are also positive effects for donor countries and negative effects for recipients.

As a rule, leaving scientists do not break all ties with their homeland, so the benefit for countries where scientists leave may consist in developing contacts with the foreign scientific diaspora, and, if effective measures are introduced to encourage cooperation, attracting them back and applying their knowledge in their home country. At the same time, there is already evidence that the diaspora can have a positive impact not only on the scientific, but also on the technological development of the donor country. Thus, in recent years, there has been information about a growing flow of returning scientists to India, especially to such modern centers as Bangalore. A similar pattern is observed in China. It is believed that the Indian scientific diaspora played a key role in establishing partnerships and cooperation between Indian and American high-tech companies. It should be noted that in places where scientists return, there are conditions not only for scientific work, but also modern infrastructure and comfortable living conditions have been created [19].

It is important to note that the dynamics and direction of international intellectual migration largely depends on the development of science in the country and the attitude to it. Therefore, the state of affairs in this area largely determines the progress of the country as a whole. A country whose development is based on knowledge, highly-skilled specialists who accumulate human capital, play a leading role. And the problem of “brain drain” significantly hinders the development of the country. The authors of the paper believe that the development of science, creation and study of something is possible exclusively in a free environment, where the scientist chooses the research and its direction. For example, this is what the current scientific environment in Kazakhstan lacks.

Table 1 – Possible global and national effects of international mobility of skilled personnel

DONOR COUNTRIES	RECIPIENT COUNTRIES
Negative effects:	
“Brain drain”: loss of productivity due to the outflow of skilled personnel and students	Reduced motivation for indigenous people to obtain higher qualifications. Perhaps “washing out” the indigenous people from the best universities. Linguistic and cultural barriers between domestic and foreign scientists
Positive effects	
Increasing motivation for indigenous people to obtain higher qualifications. It is possible to obtain economic effects in the case of the return of those who left earlier. Knowledge transfer and cooperation development. Development of relations with foreign research institutions. Expanding opportunities for technology exports. Assistance from the scientific diaspora	Growth of R&D productivity due to the influx of highly skilled personnel. Knowledge transfer and cooperation development. Development of relations with foreign research institutions. Expanding opportunities for technology exports. Growth in the number of applicants to doctoral studies
Possible global effects:	
The increasing international circulation of knowledge. Improving employment opportunities for scientists. There is a high probability of finding a use for unique knowledge/skills. Formation of international scientific and technological clusters (Silicon Valley, CERN)	
Note: compiled by the authors based on [17-18]	

In Kazakhstan, the “brain drain” is increasing – the country is very actively leaving technical specialists, economists, and teachers. The outflow of skilled personnel has accelerated by 34-88% over the past 4 years [20].

The acceleration of the skilled specialists and researchers flow leaving Kazakhstan is recorded against the background of a general increase in the outflow of the population. The difference between the numbers of arrivals and departures (the balance) increases more and more in the negative direction every year. By 2018,

the difference is about 30 thousand people. Despite the general slowdown in the intensity of external migration in recent years, in 2016 the number of emigrants with higher and secondary special education exceeded the number of immigrants with higher and secondary special education by 54 %, in 2017 – by 32 %, in 2018 – by 61 % [21]. From the point of view of conceptual orientation, Kazakhstan needs to take into account positive foreign experience in the field of promoting mobility.

In addition, the loss from the “brain drain” can be measured in monetary terms. For example, researchers estimate the annual losses of Russia in the 1990s from the “brain drain” at \$ 50 billion and claim that it caused irreparable damage to the country's intellectual potential. According to the estimates of MSU rector V. Sadovnichy, Russia has spent about one-third of its intellectual potential in the 1990s [22].

Consequences of the brain drain impact on the country can be predicted as the loss of economically active segment of the population, the state's funds for training and education of citizens, the “bleeding” of influx of young professionals into science and the production of digital high-tech products, innovation activity in the national economy. Exodus of young people from the country, whose education and upbringing (in kindergartens and schools) the state has spent time and money on, means that the country is actually deprived of the possibility of stable development in the future.

It should be noted that the conceptualization of intellectual migration is emerging as an area of empirical and theoretical knowledge, although it has not yet completely separated itself from the basic provisions of general migrationology. In general, modern specialists have managed to move from a monodisciplinary study of intellectual migration from the perspective of economic, legal or sociological concepts to the analysis of political aspects of cross-border movements of highly skilled personnel. It is thanks to the spread of political science research that the study of intellectual migration is gradually becoming multidisciplinary [23].

There are different interpretations of the concept of “intellectual migration”. So, its extended understanding includes migration not only of scientific and technical specialists, but also of creative intelligentsia, and the broadest interpretation implies the entire complex of migration flows of skilled personnel who have been working abroad for more than one year (figure 1). Problems related to intellectual migration are usually considered in terms of their impact on the country of immigration, on the country of emigration, and on the world community as a whole [24-26].

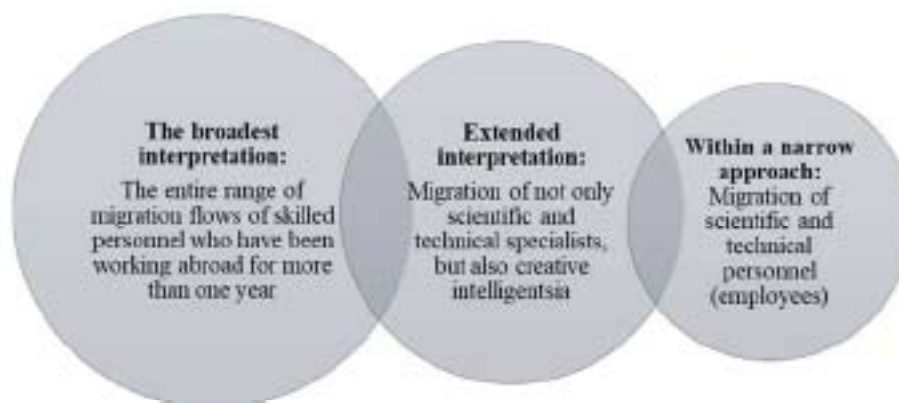


Figure 1 – Various conceptual approaches to the interpretation of the “intellectual migration” concepts
Note – compiled by the authors based on [24-26]

As the flow of intellectual emigration (and/or brain drain) gained momentum, it was reflected in attempts to conceptualize it. Two competing concepts developed quite quickly (figure 2). At present, both concepts seem to be insufficiently proven. To understand the specifics of modern migration of scientific personnel, it is necessary to analyze their specific spatial and temporal features, a complex combination of conditions, causes and factors of emigration.

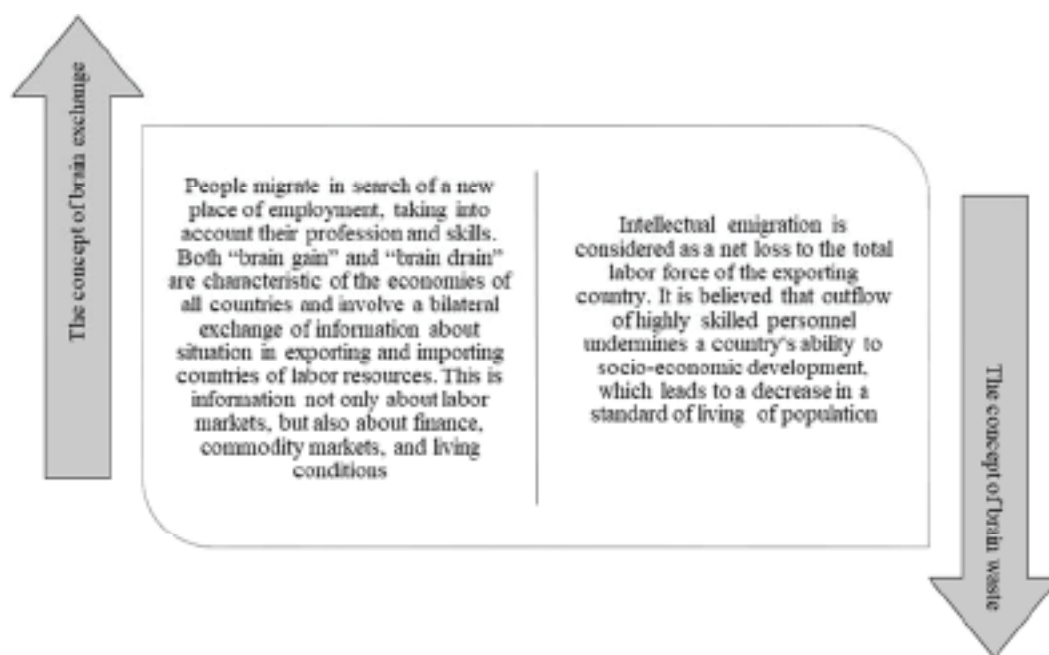


Figure 2 – Competing concepts on intellectual emigration
 Note – compiled by the authors based on [27-29]

However, recently some scientists have considered the “brain drain” model incomplete and point out the weaknesses of its political consequences, instead suggesting the concept of “brain circulation” [30-33]. These authors argue that researchers differ from other migrants in that they are motivated by the nature of their profession to move internationally in order to provide themselves with better opportunities to develop their careers, exchange ideas, and expand their knowledge. This perspective highlights the fact that these movements can be temporary and represent a global positive value resulting from a more efficient international labour market, the creation of international knowledge networks, and more effective knowledge transfer between countries [34-37].

The traditional “brain drain” approach to the phenomenon of scientific mobility tends to portray mobile researchers as economic agents who leave interests and contacts in the country of origin to seek better economic or professional conditions abroad [31; 37]. However, there is growing evidence of a number of links between mobile researchers and their countries of origin [37]. Some authors have noted that in many cases, researchers' mobility occurs in the context of the international community, where foreign experience coincides with the goal of creating and maintaining international knowledge networks [38-40]. In other cases, researchers participate in specific programs that involve collaboration and a number of activities in or for the country of origin (for example, teaching) [41].

In addition, researchers can continue to collaborate with industry or develop business interests in the country of origin [40; 42]. Finally, governments and institutions are increasingly creating Internet-based social networks that are specifically designed to allow researchers abroad to maintain contact with researchers and institutions in their home country, such as diaspora networks [43-45].

In the context of globalization, the topic of personnel movement between different countries is becoming more and more relevant. The shortage of highly-skilled professionals in any country is one of the main reasons that hindering the sustainable growth of the national economy [46]. In the near future, given the declining birth rate and an aging population, the demand for labor in Western countries will only grow, and the desire to compensate for the lack of highly qualified personnel will grow accordingly. In this regard, the struggle for intellectual capital is currently intensifying. For example, many countries are creating conditions for attracting foreign highly qualified workers, and developing government programs that promote intellectual immigration [47].

Each state tries to regulate the processes of labor migration and mobility in order to get the right workers for its economy from the general flow of potential migrants. Within the framework of this paper, scientific and/or highly-skilled personnel/employees. According to Kusayeva & Kotov [48], the regulation of migration processes is a set of administrative, legal and socio-economic measures that ensure the implementation of migrants rights guaranteed by the state, create conditions for their movement in directions that meet the current and future needs of the country, improve demographic situation and preserve the country's territorial integrity.

Moreover, expert communities and analysts (scientists and specialists) on migration and mobility issues have come to the conclusion that it is necessary to regulate the processes of scientific migration, rather than limiting it through international migration policies. Indeed, many state governments often understand the regulatory process as a predominantly restrictive policy [49].

Problems of mobility and migration cannot be solved without state control and regulation by the authorities. Migration processes that cover the spatial movement of the population (regardless of the nature of the move and goals) involve not only temporary employment and moving from one locality to another, but also daily trips to study or work in another place. These processes of territorial population movement lead to the spatial redistribution of labor resources (including scientific personnel) and the unification of temporary residence with working or studying conditions [50].

Basically, migration processes are voluntary or forced. They occur either in an organized manner, with participation and regulation of the state and under their control, or they occur spontaneously, by forces and means of migrants without material assistance from state structures. But in the first and second cases, the state, as a guarantor of social support, should regulate migration processes in order to neutralize the negative mechanisms of population movement from one territory to another [50].

In Ushakova's research work [51], it is stated that “public regulation” is the achievement of certain socio-economic goals through the application by state bodies of a system of measures of a legislative, executive and controlling nature. Considering this issue, it is possible to distinguish the methods of “direct” and “indirect” public regulation (figure 3). Methods of direct regulation include: measures of direct (administrative) and indirect impact.

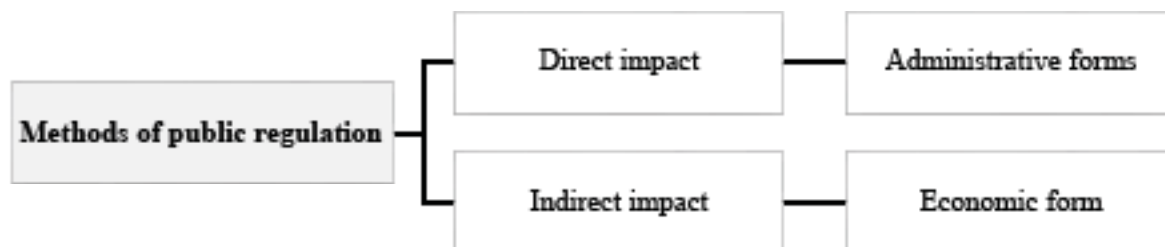


Figure 3 – Methods of public impact

Note – source [52]

According to Ivanov [49], based on the useful significance of the world experience (European Union (EU), France, Germany, USA, etc.), he notes that the regulation of mobility and migration processes can be formulated as follows:

- 1) interrelation of systems of legislative, economic and operational (organizational and economic) regulation;
- 2) regulations and agreements, both at the EU level and at the level of intergovernmental (interstate) agreements;
- 3) national programs that contain conceptual provisions, strategic and tactical goals that are consistent with the goals and objectives of economic reform, and national priorities.

Also, in his opinion, the main source of financing programs is the state budget, which is a significant lever of influence on migration processes. The main mechanism of public regulation of labor mobility, including scientific personnel, is: state policy, current operational management, a system of direct and indirect regulators, migration behavior, and migration consciousness. Direct regulation refers to legislative-

regulatory and organizational acts and actions; indirect – economic, informational, educational, cultural-educational and propaganda [49].

Two main concepts of state policy in this area can be distinguished from approaches available in the world practice to solving the problems of intellectual migration [53]. This is the so-called concept of “active regulation”, the main idea of which is the fundamental possibility and feasibility of public regulation of intellectual interstate migration using various tools (legal, administrative, economic, etc.). This concept presupposes an active combination of domestic and international legal acts regulating, first of all, the return programs of migrants. The concept of "orientation to the future" is based on the position that problems of regulating intellectual migration can be solved only in the future and at the supranational level, while respecting the interests of the individual and the state of origin of the emigrant. This means development of such international legal norms and legislative provisions that do not contradict generally accepted state norms [54].

Direct impact methods are most often used in the form of regulatory and legal levers: establishment of legislative frameworks (quotas) for scientific migrants in receiving country; deportation of illegal labor migrants, institution of registration, and so on. Methods of indirect regulation have various forms depending on the object of regulation, maturity of various forms of influence on the individual, tasks facing the authorities in terms of increasing qualified scientific labor flows.

In this context, role of the state in this area is to define goals, national priorities, develop a mechanism for their implementation, as well as to select regulators. The organizational and administrative form of regulation involves both direct administrative instructions that are mandatory, and coordination of economic policy in accordance with the chosen course, as well as monitoring scientific migration processes. The principal feature of public regulation is that it not only performs an educational and propaganda function, forms public opinion and a certain social climate, norms and standards of scientific migration behavior, but also creates conditions for their implementation, taking into account both individual and national interests [49].

Besides all this, Astafiyeva [8], having analyzed theoretical foundations, causes and prerequisites for the emergence of labor mobility, highlighted relationship between type of migration and level of workforce skills and possibility of regulating it by the state (table 2).

Table 2 – Relationship between type of labor mobility and skill level of labor resources and possibility of regulating it by the state [8]

Type of labor mobility	Labor mobility of unskilled labor	Labor mobility of skilled labor (scientific personnel)
Internal labor mobility	The state should encourage labour mobility for economic reasons and discourage migration in search of public services. It is necessary to eliminate explicit and implicit restrictions, as well as access rights to new jobs. The relationship is neutral and unlikely	Strong government support, especially for making a profit where possible. It is necessary to invest in services in peripheral areas to generate high-skilled human capital. It is necessary to increase the flow of information about labor market, so that migrants better learn about employment opportunities. The relationship is strong, the probability is high
Cross-border labour mobility in regional areas	The relationship is close and favorable, especially for the growth of wealth and diversification of income from transferred earnings	Government support is needed when regional markets are integrated and the benefits of mobility can extend to the sending region. The relationship is likely, but not necessarily
Cross-border labour mobility beyond regional areas	The relationship is close and favorable, especially for the growth of wealth and diversification of income from transferred earnings	The relationship is neutral, unlikely, because there is possible damage from accelerated brain drain, but there are also possible benefits from the transfer of knowledge to returning migrants and strong incentives for investment in human capital from migration perspective

Analysis of the presented data leads to the conclusion that the efforts of public authorities can improve the quality of labor mobility, which leads to a greater concentration of people and talents in places of deployment. In an environment of citizen well-being and economic growth, people have the ability to move and decide

where they will get the most out of their labor and human capital. Since labor mobility is a consequence of the forces that “pull”, as well as those who “push” people to leave, one of the main trends is the level of economic development in cities.

To maximize the use of labor resources, the public authorities of each country need to know the areas where they will be most productive. Currently, developing world is very overpopulated, and developed world is sparsely populated. Therefore, it is necessary to take into account the importance of labor mobility for increasing employment and competitiveness when developing state migration policy. A dynamic labor market that is not limited by national borders, where labor and skills are distributed more efficiently, is important for the ability of companies to grow and invest, especially against the backdrop of increasing competition from other regions and countries of the world [8].

In addition, governments of most countries facing the phenomenon of “brain drain”, both from the donor and recipient countries, are also developing a number of measures to regulate international migration of skilled workers, which can be divided into three blocks: “incentive” measures, that is, measures to attract foreign and emigrated highly skilled workers to the country; “restrictive”, aimed at implementing selective policies for the reception of international migrants and departure of national workers; “educational”, aimed at attracting schoolchildren, students and other international educational migrants, as well as creating conditions for securing graduates of educational institutions in the receiving country. Figure 4 summarizes the conditional division of public regulation tools in the field of international labor migration of professionals into three blocks [55].

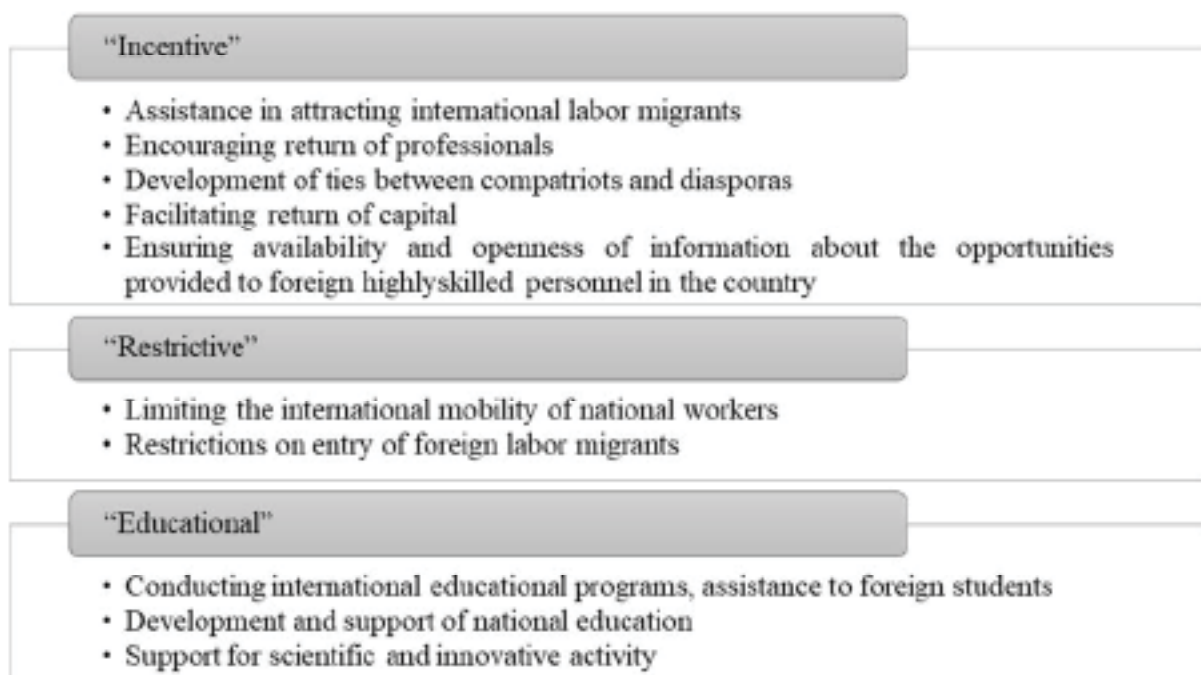


Figure 4 – Approaches to regulating the processes of international labor migration of highly skilled specialists at the national level

Note – compiled by the authors based on [55]

Thus, the need for public regulation of migration processes, in order to maintain the sustainable development of the economy as a whole, is to ensure conditions for effective functioning of the national economy, taking into account the combination of interests of individual, society and the state, taking into account the differentiation of solutions to problems of various categories of migrants.

CONCLUSION

To sum up, it can be noted that the implementation of proper public regulation of the scientific personnel mobility, including intellectual migration, is a very important area. In this regard, the need for effective public regulation by the governments of countries to solve (resolve) this problem is being updated. However, without studying the essence and features, without considering the possibilities, methods and approaches of public regulation of this process, it is almost impossible for countries to build a competent migration policy. Therefore, to a large extent in this study, the main emphasis was placed on the study of the theoretical foundations of the essence of the phenomenon of scientific personnel mobility and its public regulation.

Thus, on the basis of in-depth theoretical and methodological study of approaches to the regulation of intellectual migration processes, the conceptual bases were defined and a systematic study of the theoretical aspects of public regulation of the scientific personnel mobility was conducted.

As a result of the conducted work, it was revealed that the public regulation of the scientific personnel mobility and intellectual migration should be systematic and implemented primarily due to conceptual shifts in migration policy in general, accompanied by various mechanisms for attracting highly-skilled workers, taking into account the needs of the national economy. In addition, within the framework of the work, on the basis of a systematic study of the theoretical aspects of scientific personnel mobility and intellectual migration, the main approaches to public regulation are identified and knowledge in this area is systematized.

REFERENCES

1. Ackers L. Moving people and knowledge, the mobility of scientists within the European Union // *International Migration*. – 2005. – № 43(5). – P. 99–129.
2. Meyer J.-B. Network approach versus brain drain: lessons from the diaspora // *International Migration*. – 2001. – № 39 (5). – P. 91–110. DOI: 10.1111/1468-2435.00173.
3. Mahroum S. The international policies of brain gain, a review // *Technology Analysis and Strategic Management*. – 2005. – № 17(2). – P. 219–230.
4. Журавлева И. В., Миллер В.Е. Мобильность научных кадров // *Научно-методический электронный журнал «Концепт»*. – 2014. – Т. 20. – С. 2866–2870.
5. Armstrong M. *Human Resource Management Practice*. – Saint Petersburg: Piter Publ., 2010. – P. 85–88.
6. Chen M. Informality and social protection: Theories and realities // *IDS Bulletin*. – 2008. – № 39 (2). – P. 18–27.
7. Agrawal A. K., Devesh K., McHale J., Oetl A. Brain Drain or Brain Bank? The Impact of Skilled Emigration on Poor-Country Innovation // *Journal of Urban Economics*. – 2011. – № 69. – P. 43–55.
8. Астафьева Н. Н. Государственное регулирование трудовой мобильности: возможности и ограничения // *Экономика: вчера, сегодня, завтра*. – 2017. – Том 7. – № 3А. – С. 134–142.
9. Рыбаковский Л. Л. Миграция населения. Три стадии миграционного процесса: очерки теории и методов исследования [Electronic source]. – 2006. – URL: <http://www.viperson.ru/wind.php?ID=250095&soch=1> (accessed: February 3, 2020).
10. Артюхин М. И., Пушкевич С. А. Основные проблемы миграции населения Республики Беларусь: социологический анализ // *Социологический альманах*. – 2015. – № 6. – С. 126–141.
11. *International Migration Law. Glossary on migration*. – International Organization for Migration (IOM) [Electronic source]. – 2004. – URL: https://publications.iom.int/system/files/pdf/iml_1_en.pdf (accessed: January 30, 2020).
12. Shatreovich V., Strautmane V. Industrialisation factors in post-industrial society // *Entrepreneurship and Sustainability Issues*. – 2015. – № 3 (2). – P. 157–172. – DOI: 10.9770/jesi.2015.3.2(4).
13. Drucker P. F. *Classic Drucker: Essential Wisdom of Peter Drucker from the Pages of Harvard Business Review*. – Harvard Business Review Press, 2006. – 240 p.
14. Pécoud A. *Migration without Borders. Essays on the free movement of people*. – Published jointly by the United Nations Educational, Scientific and Cultural Organization and by Berghahn Books, 2007. – 304 p.

15. Dachs B. The impact of new technologies on the labour market and the social economy. – Scientific Foresight Unit (STOA) – European Parliament [Electronic source]. – 2018. – URL: [https://www.europarl.europa.eu/RegData/etudes/STUD/2018/614539/EPRS_STU\(2018\)614539_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2018/614539/EPRS_STU(2018)614539_EN.pdf) (accessed: February 5, 2020).
16. Аксенова В. С. США и Россия: Проблема «утечки умов»: дис...канд. полит. наук: 23.00.04. – Москва, 2003. – 160 с.
17. Regets M. C. Research and policy issues in high-skilled international migration: A perspective with data from the United States. Bonn, Germany: Institute for the Study of Labor. Discussion paper series. IZA PD no. 366, September, 2001.
18. Дежина И. Г. Мобильность научных кадров и новая политика правительства // Инновации. – 2008. – № 7. – С. 61–66.
19. Rai S. Indians find they can go home again // New York Times, January 10, 2006.
20. «Утечка мозгов» нарастает – Казахстан активно покидают технари, экономисты, педагоги. Отток квалифицированных кадров за последние 4 года ускорился на 34-88% / Finprom.kz – аналитический портал о бизнесе и финансах [Electronic source]. – 2017. – URL: <http://finprom.kz/ru/article/utechka-mozgov-narastaet-kazahstan-aktivno-pokidayut-tehnari-ekonomisty-pedagogi-ottok-kvalificirovannyh-kadrov-za-poslednie-4-goda-uskorilsya-na-34-88> (accessed: February 5, 2020).
21. Demographic Yearbook of Kazakhstan [Electronic source] // Statistics Committee of the Ministry of national economy of the Republic of Kazakhstan. – 2019. – URL: <https://stat.gov.kz/edition/publication/collection> (accessed: February 5, 2020).
22. Ермоленко А. А., Морозова А. Е., Ромашова А. И., Хмелев И. Б. «Утечка мозгов»: проблема №1 в России? [Electronic source] // СибАК. URL: <http://sibac.info/15052> (accessed: February 7, 2020).
23. Интеллектуальная миграция в современном мире: учеб. пособие / под ред. М. М. Лебедевой. – М.: МГИМО-Университет, 2014. – 253 с.
24. Latova N., Savinkov V. I. The Influence of Academic Migration on the Intellectual Potential of Russia // European Journal of Education. – 2012. – № 47 (1). – P. 64–76. – DOI: 10.2307/41343411.
25. Li W., Yu W. Chinese Intellectual Migration to the US // Spotlight on China / In: Guo S., Guo Y. (eds) Spotlight on China. – SensePublishers, Rotterdam, 2016. – P. 269–284. DOI: 10.1007/978-94-6300-669-9_16.
26. Белов Ф. Д. Международная интеллектуальная миграция: особенности, роль и значение на современном этапе // Вестник Российского университета дружбы народов. Серия: Экономика. – 2010. – № 2. – С. 43–51.
27. Freitas A., Pécoud A. Skilled Migration and the Brain Drain Guest Editors. – UNESCO, 2012. – Vol. 14. – No. 1. – 117 p. [Electronic source]. – URL: <https://unesdoc.unesco.org/ark:/48223/pf0000218151> (accessed: February 12, 2020).
28. Леденева В. Ю. Интеллектуальная миграция: мировые и российские тенденции // Высшее образование в России. – 2014. – № 2. – С. 106–113.
29. Сулягина Ю. О. Методологические подходы к анализу глобальных процессов трудовой миграции // Материалы Афанасьевских чтений. – 2016. – № 2 (15). – С. 185–189.
30. Ackers L. Moving people and knowledge: scientific mobility in the European union // International Migration. – 2005. – № 43 (5). – P. 99–131. – DOI: 10.1111/j.1468-2435.2005.00343.x.
31. Gaillard J., Gaillard A. M. Introduction: the international mobility of brains: exodus or circulation? // Science Technology & Society. – 1997. – № 2 (2). – P. 195–228. – DOI: 10.1177/097172189700200202.
32. Johnson J. M., Regets M. C. International Mobility of Scientists and Engineers to the United States – Brain Drain or Brain Circulation? – SRS Issue Brief. – National Science Foundation, Division of Science Resources Studies. – Arlington, 1998. – pp. 6. [Electronic source]. – URL: <http://www.nsf.gov/sbe/srs/stats.htm> (accessed: February 15, 2020).
33. Saxenian A. From brain drain to brain circulation: transnational communities and regional upgrading in India and China // Studies in Comparative International Development (SCID). – 2005. – № 40 (2). – P. 35–61. – DOI: 10.1007/BF02686293.

34. Gaillard A. M., Gaillard J. The international circulation of scientists and technologists // *Science Communication*. – 1998. – № 20 (1). – P. 106–115.
35. Grubel H. B., Scott A. D. The international flow of human capital // *The American Economic Review*. – 1966. – № 56 (1/2). – P. 268–274.
36. Mahroum S. Scientists and global spaces // *Technology in Society*. – 2000. – № 22 (4). – P. 513–523. – DOI: 10.1016/S0160-791X(00)00024-5
37. Meyer J.-B. Policy Implications of the Brain Drain's Changing Face // *Policy Brief, Science and Development Network*, 2003.
38. Jöns H. Brain circulation and transnational knowledge networks: studying long-term effects of academic mobility to Germany, 1954-2000 // *Global Networks*. – 2009. – № 9 (3), – P. 315–338.
39. Mahroum S. Highly skilled globetrotters: mapping the international migration of human capital // *R&D Management*. – 2000. – № 30 (1). – P. 23–32. DOI: 10.1111/1467-9310.00154
40. Tripl M. Scientific mobility and knowledge transfer at the interregional and intraregional level // *Regional Studies*. – 2011. – № 0 (0), – pp. 1–15, DOI: 10.1080/00343404.2010.549119
41. Hiroshi O., Watanabe A. The international mobility of researchers: policy support at the national and institutional level. In: OECD (Ed.). – *The International Mobility of Researchers Workshop*, 2007.
42. Wickware P. End of the brain drain could be in sight // *Nature*. – 1999. – № 399 (6732). – P. 179–180.
43. Thorn K., Holm-Nielsen L.B. International mobility of researchers and scientists policy options for turning a drain into a gain. In: *The International Mobility of Talent: Types, Causes, and Development Impact*, 2008. – P. 145–167.
44. Kuznetsov Y. N. *Diaspora Networks and the International Migration of Skills: How Countries Can Draw on their Talent Abroad*. – World Bank Publications, 2006.
45. Baruffaldi S. H., Landoni P. Return mobility and scientific productivity of researchers working abroad: The role of home country linkages // *Research Policy*. – 2012. – № 41. – P. 1655–1665. DOI: 10.1016/j.respol.2012.04.005
46. Гришин В. И., Абрамов Р. А. Роль региональной инновационной инфраструктуры в модернизации экономики страны // *Национальные интересы: приоритеты и безопасность*. – 2010. – № 11 (68). – С. 2–8.
47. Мыреев А. В., Халатенкова Е. Ю. Государственное регулирование интеллектуальной миграции в РФ на современном этапе // *Сборник тезисов докладов и статей международной научно-практической конференции 22 апреля 2015 года / отв. редактор Р.А. Абрамов*. – М.: ООО «Третьяковъ», 2015. – С. 144–146.
48. Кусаева А. Р., Котов Н. М. Государственное регулирование миграционных процессов и влияние трудовой миграции на экономику России // *Сборник тезисов докладов и статей международной научно-практической конференции 22 апреля 2015 года / отв. редактор Р. А. Абрамов*. – М.: ООО «Третьяковъ», 2015. – 211 с.
49. Иванов А. Г. Государственное регулирование внешней трудовой миграции: опыт ЕС, Франции, Германии, США // *Вестник РУДН, серия Политология*. – 2009. – № 3. – С. 61–69.
50. Ушакова О. А. Необходимость государственного регулирования миграционных процессов для поддержания устойчивого развития экономики // *Сборник тезисов докладов и статей международной научно-практической конференции 22 апреля 2015 года / отв. редактор Р.А. Абрамов*. – М.: ООО «Третьяковъ», 2015. – 211 с.
51. Ушакова О. А. Критерии управления устойчивым развитием в условиях модернизации экономики: монография / О. А. Ушакова. – Новосибирск: Издательство «СИБПРИНТ», 2011. – 80 с.
52. Бабашкина А. М. Государственное регулирование национальной экономики / А. М. Бабашкина. – М.: Финансы и статистика, 2005. – 480 с.
53. Миграция и безопасность в России / Под ред. Г. Витковской и С. Панарина. – М.: Интердиалект+, 2000. – С. 341.
54. Ушкалов И. Г., Малаха И. А. «Утечка умов» – масштабы, причины, последствия. – М.: Эдиториал УРСС, 1999. – С. 176.

55. Вартанян А. А. Государственное регулирование международной миграции высококвалифицированных кадров: дис...канд. эконом. наук: 08.00.14. – Москва, 2017. – 215 с.

REFERENCES

1. Ackers, L. (2005), "Moving people and knowledge, the mobility of scientists within the European Union", *International Migration*, No. 43(5), pp. 99–129.
2. Meyer, J.-B. (2001), "Network approach versus brain drain: lessons from the diaspora", *International Migration*, No. 39 (5), pp. 91–110, DOI: 10.1111/1468-2435.00173.
3. Mahroum, S. (2005), "The international policies of brain gain, a review", *Technology Analysis and Strategic Management*, No. 17(2), pp. 219–230.
4. Zhuravleva, I. V. and Miller, V. E. (2014), "Mobil'nost' nauchnyh kadrov", *Nauchno-metodicheskij elektronnyj zhurnal «Koncept»*, Vol. 20, pp. 2866–2870 (in Russian).
5. Armstrong, M. (2010), "Human Resource Management Practice", Saint Petersburg: Piter Publ., pp. 85–88.
6. Chen, M. (2008), "Informality and social protection: Theories and realities", *IDS Bulletin*, No. 39 (2), pp. 18–27.
7. Agrawal, A. K., Devesh, K., McHale, J. and Oettl, A. (2011), "Brain Drain or Brain Bank? The Impact of Skilled Emigration on Poor-Country Innovation", *Journal of Urban Economics*, No. 69, pp. 43–55.
8. Astafeva, N. N. (2017), "Gosudarstvennoe regulirovanie trudovoj mobil'nosti: vozmozhnosti i ogranicheniya", *Ekonomika: vchera, segodnya, zavtra*, Vol. 7, No. 3A, pp. 134–142 (in Russian).
9. Rybakovskij, L. L. (2006), "Migraciya naseleniya. Tri stadii migracionnogo processa: ocherki teorii i metodov issledovaniya", available at: <http://www.viperson.ru/wind.php?ID=250095&soch=1> (accessed: February 3, 2020) (in Russian).
10. Artyuhin, M. I. and Pushkevich, S. A. (2015), "Osnovnye problemy migracii naseleniya Respubliki Belarus': sociologicheskij analiz", *Sociologicheskij al'manah*, No. 6, pp. 126–141 (in Russian).
11. "International Migration Law. Glossary on migration" (2004), International Organization for Migration (IOM), 81 p., available at: https://publications.iom.int/system/files/pdf/iml_1_en.pdf (accessed: January 30, 2020).
12. Shatreovich, V. and Strautmane, V. (2015), "Industrialisation factors in post-industrial society", *Entrepreneurship and Sustainability Issues*, No. 3 (2), pp. 157–172, DOI: 10.9770/jesi.2015.3.2(4).
13. Drucker, P. F. (2006), "Classic Drucker: Essential Wisdom of Peter Drucker from the Pages of Harvard Business Review", Harvard Business Review Press, 240 p.
14. Pécoud, A. (2007), "Migration without Borders. Essays on the free movement of people", Published jointly by the United Nations Educational, Scientific and Cultural Organization and by Berghahn Books, 304 p.
15. Dachs, B. (2018), "The impact of new technologies on the labour market and the social economy", Scientific Foresight Unit (STOA), European Parliament, available at: [https://www.europarl.europa.eu/RegData/etudes/STUD/2018/614539/EPRS_STU\(2018\)614539_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2018/614539/EPRS_STU(2018)614539_EN.pdf) (accessed: February 5, 2020).
16. Aksenova, V. S. (2003), "SSHA i Rossiya: Problema «utechki umov»: dis...kand. polit. nauk: 23.00.04", Moscow, 160 p. (in Russian).
17. Regets, M. C. (2001), "Research and policy issues in high-skilled international migration: A perspective with data from the United States", Bonn, Germany: Institute for the Study of Labor. Discussion paper series. IZA PD no. 366.
18. Dezhina, I. G. (2008), "Mobil'nost' nauchnyh kadrov i novaya politika pravitel'stva", *Innovacii*, No. 7, pp. 61–66 (in Russian).
19. Rai, S. (2006), "Indians find they can go home again", *New York Times*, January 10, 2006.
20. "«Utechka mozgov» narastaet – Kazahstan aktivno pokidayut tekhnari, ekonomisty, pedagogi. Ottok kvalificirovannyh kadrov za poslednie 4 goda uskorilsya na 34-88%" (2017), *Finprom.kz – analiticheskij portal o biznese i finansah*, available at: <http://finprom.kz/ru/article/utechka-mozgov-narastaet-kazahstan-aktivno-pokidayut-tehnari-ekonomisty-pedagogi-ottok-kvalificirovannyh-kadrov-za-poslednie-4-goda-uskorilsya-na-34-88> (accessed: February 5, 2020) (in Russian).

21. “Demographic Yearbook of Kazakhstan” (2019), Statistics Committee of the Ministry of national economy of the Republic of Kazakhstan, available at: <https://stat.gov.kz/edition/publication/collection> (accessed: February 5, 2020).
22. Ermolenko, A. A., Morozova, A. E., Romashova, A. I. and Hmelev, I. B. “«Utechka mozgov»: problema №1 v Rossii?”, SibAK, available at: <http://sibac.info/15052> (accessed: February 7, 2020).
23. Lebedeva, M. M. (2014), “Intellectual'naya migraciya v sovremennom mire”, Moscow, MGIMO-Universitet, 253 p. (in Russian).
24. Latova, N. and Savinkov, V. I. (2012), “The Influence of Academic Migration on the Intellectual Potential of Russia”, *European Journal of Education*, No. 47 (1), pp. 64–76, DOI: 10.2307/41343411.
25. Li, W. and Yu, W. (2016), “Chinese Intellectual Migration to the US”, In: Guo S., Guo Y. (eds) *Spotlight on China*, SensePublishers, Rotterdam, pp. 269–284. DOI: 10.1007/978-94-6300-669-9_16.
26. Belov, F. D. (2010), “Mezhdunarodnaya intellektual'naya migraciya: osobennosti, rol' i znachenie na sovremennom etape”, *Vestnik Rossijskogo universiteta družby narodov. Seriya: Ekonomika*, No. 2, pp. 43–51 (in Russian).
27. Freitas, A. and Pécoud, A. “Skilled Migration and the Brain Drain Guest Editors”, UNESCO, Vol. 14, No. 1, 117 p., available at: <https://unesdoc.unesco.org/ark:/48223/pf0000218151> (accessed: February 12, 2020).
28. Ledeneva, V. Yu. (2014), “Intellectual'naya migraciya: mirovye i rossijskie tendencii”, *Vyshee obrazovanie v Rossii*, No. 2, pp. 106–113 (in Russian).
29. Sulyagina, Yu. O. (2016), “Metodologicheskie podhody k analizu global'nyh processov trudovoj migracii”, *Materialy Afanas'evskih chtenij*, No. 2 (15), pp. 185–189 (in Russian).
30. Ackers, L. (2005), “Moving people and knowledge: scientific mobility in the European union”, *International Migration*, No. 43 (5), pp. 99–131, DOI: 10.1111/j.1468-2435.2005.00343.x.
31. Gaillard, J. and Gaillard, A. M. (1997), “Introduction: the international mobility of brains: exodus or circulation?”, *Science Technology & Society*, No. 2 (2). pp. 195–228, DOI: 10.1177/097172189700200202.
32. Johnson, J. M. and Regets, M. C. (1998), “International Mobility of Scientists and Engineers to the United States – Brain Drain or Brain Circulation?”, *SRS Issue Brief*, National Science Foundation, Division of Science Resources Studies, Arlington, p. 6, available at: <http://www.nsf.gov/sbe/srs/stats.htm> (accessed: February 15, 2020).
33. Saxenian, A. (2005), “From brain drain to brain circulation: transnational communities and regional upgrading in India and China”, *Studies in Comparative International Development (SCID)*, No. 40 (2), pp. 35–61, DOI: 10.1007/BF02686293.
34. Gaillard, A. M. and Gaillard, J. (1998), “The international circulation of scientists and technologists”, *Science Communication*, No. 20 (1), pp. 106–115.
35. Grubel, H. B. and Scott, A. D. (1996), “The international flow of human capital”, *The American Economic Review*, No. 56 (1/2), pp. 268–274.
36. Mahroum, S. (2000), “Scientists and global spaces”, *Technology in Society*, No. 22 (4), pp. 513–523, DOI: 10.1016/S0160-791X(00)00024-5.
37. Meyer, J.-B. (2003), “Policy Implications of the Brain Drain’s Changing Face”, *Policy Brief*, Science and Development Network.
38. Jöns, H. (2009), “Brain circulation and transnational knowledge networks: studying long-term effects of academic mobility to Germany, 1954-2000”, *Global Networks*, No. 9 (3), pp. 315–338.
39. Mahroum, S. (2000), “Highly skilled globetrotters: mapping the international migration of human capital”, *R&D Management*, No. 30 (1), pp. 23–32, DOI: 10.1111/1467-9310.00154.
40. Tripl, M. (2011), “Scientific mobility and knowledge transfer at the interregional and intraregional level”, *Regional Studies*, No. 0 (0), pp. 1–15, DOI: 10.1080/00343404.2010.549119.
41. Hiroshi, O. and Watanabe, A. (2007), “The international mobility of researchers: policy support at the national and institutional level”, In: OECD (Ed.), *The International Mobility of Researchers Workshop*.
42. Wickware, P. (1999), “End of the brain drain could be in sight”, *Nature*, No. 399 (6732), pp. 179–180.

43. Thorn, K. and Holm-Nielsen, L. B. (2008), "International mobility of researchers and scientists policy options for turning a drain into a gain", In: *The International Mobility of Talent: Types, Causes, and Development Impact*, pp. 145–167.
44. Kuznetsov, Y. N. (2006), "Diaspora Networks and the International Migration of Skills: How Countries Can Draw on their Talent Abroad", World Bank Publications.
45. Baruffaldi, S. H. and Landoni, P. (2012), "Return mobility and scientific productivity of researchers working abroad: The role of home country linkages", *Research Policy*, No. 41, pp. 1655–1665, DOI: 10.1016/j.respol.2012.04.005.
46. Grishin, V. I. and Abramov, R. A. (2010), "Rol' regional'noj innovacionnoj infrastruktury v modernizacii ekonomiki strany", *Nacional'nye interesy: priority i bezopasnost'*, No.11 (68), pp. 2–8 (in Russian).
47. Myreev, A. V. and Halatenkova, E. Yu. (2015), "Gosudarstvennoe regulirovanie intellektual'noj migracii v RF na sovremennom etape", Moscow, OOO «Tret'yakov"», pp. 144–146 (in Russian).
48. Kusaeva, A. R. and Kotov, N. M. (2015), "Gosudarstvennoe regulirovanie migracionnyh processov i vliyaniye trudovoj migracii na ekonomiku Rossii", OOO «Tret'yakov"», Moscow, 211 p. (in Russian).
49. Ivanov, A. G. (2009), "Gosudarstvennoe regulirovanie vneshnej trudovoj migracii: opyt ES, Francii, Germanii, SSHA", *Vestnik RUDN, seriya Politologiya*, No. 3, pp. 61–69 (in Russian).
50. Ushakova, O. A. (2015), "Neobhodimost' gosudarstvennogo regulirovaniya migracionnyh processov dlya podderzhaniya ustojchivogo razvitiya ekonomiki", OOO «Tret'yakov"», Moscow, 211 p. (in Russian).
51. Ushakova, O. A. (2011), "Kriterii upravleniya ustojchivym razvitiem v usloviyah modernizacii ekonomiki: monografiya", Novosibirsk, Izdatel'stvo «SIBPRINT», 80 p. (in Russian).
52. Babashkina, A. M. (2005), "Gosudarstvennoe regulirovanie nacional'noj ekonomiki", *Finansy i statistika*, Moscow, 480 p. (in Russian).
53. "Migraciya i bezopasnost' v Rossii" (2000), In ed. by Vitkovskaya G. and Panarin S., *Interdialekt+*, Moscow, 341 p. (in Russian).
54. Ushkalov I.G., Malaha I.A. «Utechka umov» – masshtaby, prichiny, posledstviya. – M.: Editorial URSS, 1999. – S. 176.
55. Vartanyan, A. A. (2017), "Gosudarstvennoe regulirovanie mezhdunarodnoj migracii vysokokvalificirovannyh kadrov: dis...kand. ekonom. nauk: 08.00.14", Moscow, 215 p. (in Russian).

SUMMARY

This paper discusses the issues of conceptualization and systematic research of theoretical aspects of public regulation of scientific personnel mobility based on the study of approaches to regulating the intellectual migration processes. As a result of the conducted work, it was revealed that the public regulation of the scientific personnel mobility and intellectual migration should be systematic and implemented primarily due to conceptual shifts in migration policy in general, accompanied by various mechanisms for attracting highly qualified workers, taking into account the needs of the national economy. In addition, the work has been based on a systematic study of theoretical aspects of scientific personnel mobility and intellectual migration, and has identified the main approaches to public regulation and systematized knowledge in this area.

ТҮЙІНДЕМЕ

Ғылыми мақалада зияткерлік көші-қон процестерін реттеу тәсілдерін зерделеу негізінде ғылыми кадрлардың ұтқырлығын мемлекеттік реттеудің теориялық аспектілерін тұжырымдау және жүйелі зерттеу мәселелері қарастырылды. Жүргізілген жұмыстар нәтижесінде ғылыми кадрлардың ұтқырлығын және зияткерлік көші-қонды мемлекеттік реттеу жүйелі сипатта болуы және бірінші кезекте ұлттық экономиканың қажеттіліктерін ескере отырып, жоғары білікті қызметкерлерді тартудың әртүрлі тетіктерімен ілесе жүретін көші-қон саясатындағы тұжырымдамалық өзгерістер есебінен жүзеге асырылуы тиіс екені анықталды. Сонымен қатар, жұмыс шеңберінде ғылыми кадрлар ұтқырлығының теориялық

аспектілерін жүйелі зерделеу және зияткерлік көші-қон негізінде мемлекеттік реттеуге негізгі тәсілдері анықталды және осы саладағы негізгі ақпараттар жүйеленді.

РЕЗЮМЕ

В настоящей статье рассматриваются вопросы концептуализации и системного исследования теоретических аспектов государственного регулирования мобильности научных кадров на основе изучения подходов к регулированию процессов интеллектуальной миграции. В результате проведенных работ было выявлено, что государственное регулирование мобильности научных кадров и интеллектуальной миграции должны носить системный характер и осуществляться в первую очередь за счет концептуальных сдвигов в миграционной политике в целом, сопровождающимися разнообразными механизмами привлечения высококвалифицированных работников с учётом потребностей национальной экономики. Кроме того, в рамках работы, на основе системного изучения теоретических аспектов мобильности научных кадров и интеллектуальной миграции выявлены основные подходы к государственному регулированию и систематизированы знания в этой области.

СВЕДЕНИЯ ОБ АВТОРАХ

Сансызбаева Галия Нурымовна – доктор экономических наук, профессор, Казахский национальный университет имени аль-Фараби, Алматы, Республика Казахстан, e-mail: gns1981@mail.ru.

Нұрұлы Елдар – докторант PhD, Казахский национальный университет имени аль-Фараби, Алматы, Республика Казахстан, e-mail: eldar_nuruly@mail.ru.

Актымбаева Алия Сагындыковна – кандидат географических наук, старший преподаватель, Казахский национальный университет имени аль-Фараби, Алматы, Республика Казахстан, e-mail: alia_79-30@mail.ru.

Сапиева Акмарал Женисбаевна – докторант PhD, Казахский национальный университет имени аль-Фараби, Алматы, Республика Казахстан, e-mail: mashok_1993@mail.ru.

Central Asian Economic Review №2 (131) 2020
Жазылатын индекс / – 74002

Редакторлары / Редакторы – **А.Ж. Сарсембаева**
Компьютерде беттеген / Компьютерная верстка – **А.Т. Акылова**

Басуға / Подписано к печати 29.04.2020.

Пішімі / Формат 70×100^{1/8}.

Көлемі б.т./ Объем 23,1 п.л. / Есептік б.т. / Уч-изд. 21,5 п.л. / Шартты б.т./ Усл. 17,4 п.л.

Таралымы / Тираж 300 дана /экз.

«Фортуна полиграф» баспасы»ЖШС / ТОО «Издательство «Фортуна полиграф»
050063, Алматы қаласы, 1-ықшам ауданы, 81-үй / 050063, г. Алматы, 1-микрорайон, д. 81.

Fpolygraf@bk.ru

Тел: +7 701 787 32 92, +7 771 574 57 05,
+7 701 940 76 86