

Economics and linguistics

Sevara Atadjanova^{1*} and Ilmira Kurbanova¹

¹Tashkent State Transport University, 1, Adilkhodjaeva Street, Tashkent, 100067, Republic of Uzbekistan

Abstract. The economic theory of language policy interprets language as an economic phenomenon, the language situation as an economic, market situation, and language policy as an integral element of economic policy. The article presents an attempt to systematize and develop the theoretical and methodological aspects of this promising area of research at the intersection of economics and sociolinguistics.

1 Introduction

Issues of language policy attract the attention of researchers representing various social sciences and the humanities. This is not surprising, since in almost all countries these issues have occupied and continue to occupy an important place both in state policy and in public discussions. In world history, there are many examples of how language policy can contribute to social progress, and vice versa - how mistakes and ill-considered actions in this area can cause serious conflicts. The bulk of the research on language policy, its history and consequences belong to such an interdisciplinary field of knowledge as sociolinguistics. However, the array of sociolinguistic studies is united by the object of study rather than methodology. That is why, despite the huge scientific baggage of sociolinguistics, the study of linguistic phenomena within the framework of individual social sciences, including economic theory, remains relevant. The authors using economic methods refer to the phenomenon of linguistic imperialism as an element of political and economic imperialism, analyze the relationship between language policy and globalization as a socio-economic and cultural process, explore the economic logic of decision-making about language learning [1].

And yet, despite the many published works, conferences and seminars, the economic theory of language politics (as part of the economic theory of language) is still in its infancy. This is primarily due to the fact that, despite a certain generality of analytical approaches, at the conceptual and methodological level, there has not yet been a consensus in the existing body of literature in this area, there are differences in the interpretation of key concepts. This is largely due to the fact that most authors prefer to focus on specific, relatively narrow issues, adapting theoretical and economic concepts to specific research tasks [2].

The economic theory of language policy is intended not to duplicate the corresponding section of sociolinguistics, but to supplement it. At the same time, it is necessary to

* Corresponding author: atadjanova.sevara@mail.ru

recognize the fundamental differences in the methodology of these disciplines (and in the case of the first, to formulate the initial methodological principles) [3]. In sociolinguistic works, language policy is interpreted and analyzed as the actions of the state, as a result of which the language situation turns out to be different from what it would have been without these actions, provided there was no interference.

But language policy is not formulated and carried out in a vacuum, not in isolation from policies in other areas of public life. Its true (not necessarily declared) goals and motives are related to the goals and motives of socio-economic policy in the broadest sense. In this sense, the entire socio-economic policy of the state will already be linguistic and vice versa; there is not and cannot be "non-intervention" in the language sphere, since it is inseparable from public life [4].

If sociolinguistics studies the relationship between linguistic and socio-economic reality, then economic theory approaches linguistic reality as part of the economic one, language as an economic phenomenon, the language situation as a market one, and language policy as an economic element.

Economists are able not only to offer a structured theoretical and economic interpretation of language policy, but also to enrich ideas about economic history and economic policy without "bracketing" such an important social phenomenon as language [4].

In order to form a holistic theoretical and economic view of the phenomenon under study, it is advisable, relying on the methodological apparatus of economic theory, to synthesize the ideas present in the literature, while filling in the gaps.

The diversity of languages, which has recently become the subject of economic research, can influence a variety of phenomena and processes, from economic growth to money laundering.

2 Methods

Language policy is a set of measures designed to influence the use of certain languages in various situations, as well as languages as such (vocabulary, pronunciation rules, spelling, etc.). The goals of the language policy can be formulated, and the measures based on them can be implemented both by authorities at various levels, and by various public institutions and organizations that have the necessary resources. Language policy issues are currently relevant not only at the state level, but also at the level of international organizations and multinational corporations [5].

When formulating the goals of the language policy and in their implementation, both cooperation and interaction, as well as rivalry and mutual opposition of the involved subjects, which can rely on the support of certain social groups, are possible. Language policy affects the language situation by creating or eliminating various language barriers in order to ensure that the subjects of this policy control over a variety of markets. The language situation, formed by the language policy, creates a framework in which ordinary individuals determine their linguistic behavior, that is, they choose the preferred language in this or that case, and also program the linguistic behavior of their children [6].

Language policy and related language conflicts can be seen as a reflection of the struggle for markets for goods and resources. At the same time, since language barriers are market barriers, it should be assumed that the logic of language policy correlates with the logic of economic policy as a whole, and the key role in both cases is played by the economic interests of the state and large economic entities. As an illustration of this thesis, let us turn (to the extent that the scope of this review and methodological work allows) to two striking episodes from the history of Russian language policy in the context of the country's economic history [6].

In the second half of the XIX century, the authorities of the Russian Empire began to pay more attention than before to the use of the Russian language in business and legal proceedings, as well as to the expansion of education in the Russian language and in Russian; in many sources, the language policy of that period is described as Russification. One can meet different points of view on the motives of this policy, and it is quite common (not so much in academic as in journalistic literature) to interpret it as caused by chauvinism and the desire for cultural assimilation of national minorities. It should be noted that there is a lack of special research that specifically defines the concept of jurisdiction of civil cases.

Meanwhile, economic and historical analysis leads to somewhat different conclusions regarding the goals and motives of this policy. It should be remembered that until about the middle of the XIX century, the Russian Empire did not represent either a single state-legal or a single economic space. Different parts of the empire had different laws, usually fixing the privileges of local elites, different languages of court and office work were used, which again protected the local elites. But by the middle of the 19th century, this came into conflict with the development of capitalism and the struggle emerging monopolistic financial-industrial groups, headed by St. Petersburg and Moscow banks, for the markets. If the development of railways, shipping, and means of communication objectively contributed to this process, then the preservation of laws protecting the positions of local elites, including language ones, prevented it (for example, in Finland the language of business and legal proceedings, education was Swedish, in the Baltics - German, in part of the territory Lithuania and Belarus - Polish, Arabic was widely used in the Muslim regions of the Caucasus and in Turkestan) [7].

At the same time, against the background of external factors (the creation of the German Empire, the spread of the ideas of Pan-Turkism, Marxism, etc.), the task of strengthening control over the creation and dissemination of ideas and knowledge, as well as over the integration of national elites, often alternative to the former elites, which in a number of cases, in ethnic, religious, linguistic terms, they differed from the main mass of the population (like the Swedish elite in Finland, the German elite in the Baltic states, the Polish elite in Belarus and Lithuania, etc.) - into the imperial elite [8].

The linguistic situation, which is formed in a certain territory as a result of actions taken by various actors involved, reflects a certain balance of their interests and the resources they mobilize. This does not mean, of course, that the subjects of language policy are always guided by explicitly formulated economic goals and always act rationally. But to the extent that they act rationally, economic interests and expediency drive them, even if they do not realize it.

3 Results and discussions

The language or languages we speak, read and write have a significant impact on economic, social and human development. Language determines cultural identity and thus influences people's decisions, including economic ones. Although various scientific disciplines have been studying the issues of cultural and linguistic diversity for a long time, the economics of languages began to take shape only in the second half of the 20th century [8].

The language or languages we speak, read and write have a significant impact on economic, social and human development. Language determines cultural identity and thus influences people's decisions, including economic ones. Although various scientific disciplines have been studying the issues of cultural and linguistic diversity for a long time, the economics of languages began to take shape only in the second half of the 20th century.

The very question of whether language is able to determine thinking and behavior has long been the subject of scientific debate. In the middle of the twentieth century, American

linguists Edward Sapir and Benjamin Whorf put forward the ideas of linguistic relativity in their works: they believed that the structure of a language affects how its speakers perceive the world - thus, people who speak different languages form different ideas about reality. They were opposed by the famous linguist and philosopher Noam Chomsky with his idea of a universal grammar - that is, a single structure of all languages, which, as a result, cannot predetermine a different perception of the world or behavior.

To test the Sapir-Whorf hypothesis, research on data other than linguistic could help, noted Daniel Casasanto in *Who's Afraid of the Big Bad Whorf* ("Who's afraid of the big bad Whorf"). For example, economist Kit Chen analyzed the impact on people's propensity to save and other economic decisions of how the future tense is formed in their language. Speakers of languages that are less future-tense, such as German or Chinese, which can use the same verb form in the present and future tense, save more. For speakers of languages in which the future tense is formed by a different form of the verb, such as in English or Spanish, the future looks more distant, which reduces the motivation of their speakers to save money [9].

The foundations of the economics of language were laid in a 1965 paper by the eminent American economist Jacob Marshak, who applied the standard economic concepts of cost and benefit to language. Marshak's study attracted the attention of economists immediately after its appearance, but at the first stage, their interest was primarily focused on language policy and reforms in this area.

A lot of economic research that studies the effects of linguistic diversity is based on the ideas of the linguist Joseph Greenberg, who in 1956 proposed to quantify differences in languages to identify their relationship with other factors. Various studies show that a high level of linguistic diversity at both the country and regional levels often correlates with lower growth rates, less investment in health and education, and higher levels of corruption. For example, it was ethnolinguistic diversity that led to the "tragedy of growth" in Africa, according to William Easterly (New York University) and Ross Levin (Berkeley) in their famous study: according to them, compared with East Asian countries, ethnolinguistic diversity explains up to 50% difference in growth rates between the two regions.

On the other hand, a high degree of cultural, professional and educational diversity can also have positive consequences. This was also crucial to the amazing development of Silicon Valley. Based on a sample of 50 US cities, University of Toronto professor Richard Florida showed that greater diversity in terms of culture, ethnicity, and country of origin is associated with higher levels of economic development. In addition, greater ethnolinguistic diversity in US cities is accompanied by higher wages [10].

Language distance - that is, how much languages differ from each other - is used in the analysis of international economic relations: for example, to predict and evaluate migration decisions, money laundering channels and financial flows. Alicia Adsera of Princeton and Mariola Pytlikova of the University of Ostrava, in a sample of 223 donor countries and 30 OECD recipient countries between 1980 and 2010, confirmed that migration flows are higher between countries with closer official languages. Curiously, similar trends have been observed when studying international money laundering flows: the closer the languages, the greater the laundering flows between countries [11]

The small Pormpuraav tribe in northern Australia does not have the concepts of "right/left" or "forward/backward"; instead, they use the names of the cardinal directions. For example, they would say "you have an ant's legs in the southeast" or "move the cup a little northeast." Thanks to the language, the people of this tribe seem to have a real inner compass. Otherwise, they could not even just say hello to each other: greeting in their language sounds like the question "where are you going?", And the answer should be something like "south-southeast". As a result, speakers of languages with absolute frames of reference, like Pormpuraav, in contrast to speakers of languages with relative frames

(like English or Russian), are much better oriented even in an unfamiliar area or building and are able to perform real navigational feats, says Lera Boroditsky from Stanford. that studies how language affects thinking [12].

The Bassa speakers of Liberia do not distinguish colors, except for two - dark and light, since in this language there are only two terms for color. Children whose families speak Hebrew realize their gender about a year earlier than children in Finnish-speaking families: in Hebrew, not only nouns, but also verbs have masculine and feminine genders, and in Finnish there is no category of gender at all. The languages we speak determine our thinking, our view of the world and our lives, concludes Boroditsky [13].

Language also influences the economy: this influence is studied by the economics of language, a relatively new interdisciplinary field of knowledge located at the intersection of economics, psychology, sociolinguistics, and cognitive neuroscience. In the middle of the 20th century, the American linguist Joseph Greenberg suggested studying linguistic diversity in order to understand how it relates to political, economic, geographical, historical and other non-linguistic factors. American economist Jacob Marshak, one of the "fathers of econometrics" (and who spoke ten languages), first defined and applied the economic approach to linguistic analysis, pointing out that language has economic characteristics: value, utility, costs and benefits [14].

Knowledge of a language forms human capital: those who speak a foreign language earn more than those who speak only their native language. The scale of the "language premium" in personal income depends on the country, the language itself (how widespread or in demand it is), the level of proficiency in it, and the profession. For example, in Vietnam, this premium is 40-60%, and in the United States, the country of the world's dominant language, those who speak a foreign language earn on average only 2% more. The "premium" for English in Austria, where almost half of the population speaks English, is 11%, and in Spain, where English is not very common, it is 39%, HSE experts Ksenia Rozhkova and Sergey Roshchin note. Their study showed that in the Russian labor market, the knowledge of a foreign language increases the income of an employee by an average of 11%, and for those who speak it fluently, the "premium" increases to 27%. Among professional groups, it is highest among top and middle managers - 22%, and for workers it is practically absent. Good foreign language skills not only increase income but also reduce the risk of unemployment. For migrants who speak the language of their country of residence, income increases by 5–35% (study on seven developed countries) [15].

Thinking in a foreign language helps in making economic decisions, researchers from the University of Chicago found. When thinking about a problem in a non-native language, people make more rational decisions because the foreign language provides a kind of distancing mechanism that switches from direct intuitive thinking to more conscious thinking.

Verbs and Savings Rate How the future tense is formed in a language affects people's propensity to save, economist Keith Chen found out that depending on whether the future and the present tense differ in the language, languages are divided into weakly and strongly tied to the future (weak-FTR, future time reference, and strong-FTR). The former, for example, include German and Chinese, in which the same form of the verb can be used in the present and future tense, and the latter include English and Spanish. Speakers of "futureless" languages, on average, save 31% more per year, and by the time they retire, they save 39% more. When we talk about the future tense in a different grammatical form, it feels more distant—and we're less motivated to save money for financial comfort in future years, Chen explains. In addition, speakers of languages without a future tense are healthier: they smoke 24% less, exercise 29% more, and are 31% less likely to be obese. [15].

Language macro effects Trade has been the main economic incentive for learning languages since ancient times. In the modern world, the closer the languages of two countries are, the greater their trade turnover with each other, and a common language (native or official) increases trade flows by an average of almost one and a half times. In turn, the intensification of trade leads to an increase in the number of people willing to learn the language of the trading partner country, Weber and Ginzburg found: on average, a doubling of trade turnover increases language learning with a probability of 13%. The growth of China's trade with English-speaking countries should, in theory, promote the study of Chinese in these countries and English in China, but which language will "win the battle" is difficult to predict, write Weber and Ginzburg. However, higher birth rates in Arabic and Spanish-speaking countries will encourage more people to learn these languages, while the population of Arabic and Spanish-speaking countries, on the contrary, will learn less foreign languages, they note. Estimates for 20 dimensions show that in 2050 English will remain the world's dominant language [16].

Linguistic distance (how similar one language is to another) affects the spread of technology and invention. For example, in Europe, after obtaining a patent from the European Patent Organization, the applicant must confirm this patent in each country where he wants to protect his right to an invention, and this requires translation of documents, which can be quite expensive. The higher the language distance, the lower the probability of registering a patent: every 1% increase in differences between languages reduces this probability by 16%.

Ethno-linguistic diversity can undermine the effectiveness of institutions and political stability, as well as increase corruption by lobbying for the interests of multiple interest groups, said Paolo Mauro, Deputy Director of the IMF's Fiscal Affairs Department. Corruption reduces investment, which in turn slows down economic growth.

One example of slowing growth is the "tragedy of African development" studied by economists William Easterly and Ross Levin. They compared countries in Asia, where there are about 2,300 living languages, and Africa, where there are about 2,100 languages - but in African countries, linguistic diversification is much higher: in most of them, about 90% of the population does not speak the official language at home. The study showed that high ethno-linguistic diversity correlates with insufficiently high levels of education, weak development of the financial system, and inefficient infrastructure [16, 8-10].

Of the 15 most ethnically diverse countries, 14 are in Africa, and the two fastest growing East Asian economies, Japan and Hong Kong, are among the most ethnically homogeneous.

4 Conclusion

The economics of language is an emerging field of study dealing with a number of topics such as the impact of language skills on income and trade, as well as the costs and benefits of language planning options, the preservation of minority languages, etc. It is relevant to the analysis of language policy.

Language can be an expression of symbolic power. However, changes in the world's linguistic map show that they are also strongly related to economic development in the world. Giving economic value to a particular language in the linguistic market means giving it certain privileges and powers associated with that language. Most language communities in the world practices this policy.

In addition, the economics of languages studies a wide range of economic effects of language and linguistic diversity: the influence of linguistic factors on trade, financial markets, consumer choice, earnings, the benefits of learning foreign languages, the behavior of multinational corporations in various linguistic environments, and many

others. Having become a separate area of science only by the end of the 20th century, the economics of language remains a fairly young discipline that provides researchers with a lot of room for analysis.

Summarizing the works mentioned above, we can draw the following conclusions. First, the presence or absence of certain language skills, as well as the ability or inability to use a particular language, have tangible economic consequences for economic agents, affecting their ability to interact with other agents in a variety of markets, and ultimately on their income. Secondly, the motivation of economic agents for the conscious development and use of a particular language is directly related to the scale of the markets, access to which opens corresponding language. Thirdly, language barriers as a special case of market barriers can affect the well-being of market participants in different ways, lowering it for some, but allowing others to extract rent. Fourthly, language policy, influencing language barriers, affects the well-being of individuals, groups, countries as a whole, which means that it can be analyzed in a political and economic context.

To the extent that language skills open up markets, their value is determined by the size of those markets. A language policy aimed at preserving and enhancing the functional status and role of a particular language in a country, region, or world can be effective and efficient only if the access of its speakers to a variety of markets is maintained or expanded as a result of the implementation of both the language and in general socio-economic policy.

References

1. J. Marschak, The Economics of Language. *Behavioral Science* **10**, 135—140 (1965)
2. A. Smith, Dynamic Models of Language Evolution: The Linguistic Perspective. In: Ginsburgh, V., Weber, S. (Eds.). *The Palgrave Handbook of Economics and Language*. London: Palgrave Macmillan, 61-100 (2016)
3. A. John, Dynamic Models of Language Evolution: The Economic Perspective. In: Ginsburgh, V., Weber, S. (Eds.). *The Palgrave Handbook of Economics and Language*. London, Palgrave Macmillan, 101—120 (2016)
4. J. Abszewicz, V. Ginsburgh, S. Weber, Bilingualism and Communicative Benefits. *Annals of Economics and Statistics* **101/102**, 271—286 (2011)
5. V. Ginsburgh, I. Ortuño-Ortín, S. Weber, *Journal of Economic Behavior and Organization* **64**, 337—347 (2007)
6. D. Kadochnikov, Languages, Regional Conflicts and Economic Development: Russia. In: Ginsburgh, V., Weber, S. (Eds.). *The Palgrave Handbook of Economics and Language*. London, Palgrave Macmillan, 538—580 (2016)
7. D. Kadochnikov, *Questions of Economics* **2**, 128-140 (2016)
8. M. Marusenko, *Economics, Politics, Culture* **10**, 35—48 (2013)
9. M. Marusenko, *Economics, Politics, Culture* **6**, 31—44 (2014)
10. G. Benito, G. Gripsrud, *Journal of International Business Studies* **23(3)**, 461—476 (1992)
11. T. Casey, C. Dustmann, *Journal of Human Resources* **43(3)**, 660—687 (2008)
12. B. Chiswick, P. Miller, *Journal of Population Economics* **15(1)**, 31—57 (2002)
13. A. Chong, J. Guillen, V. Rios, *Public Choice* **143**, No. ½, 191—208 (2010)
14. Fishman, C. Ferguson, J. Das Gupta (eds.), *Language problems of developing nations*. N. Y.: Wiley, pp. 53—68.
15. *Annals of Economics and Statistics*, No 101/102, pp. 271—286.

16. Tarun Jain, Common Language: The Impact of Language on Economic Performance, Indian School of Business (2012)