

論文の内容の要旨

Ethnicity, Language, and Economy

(エスニシティ・言語と経済)

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Ethnically heterogeneous society is inevitably affected by the socio-economic activities of residents in it, whether they are indigenous or immigrant, and whether majorities or minorities. Impacts on the host country given by the existence of multiple ethnic groups are negligible from socio- and politico-economic points of view. Because societies and economics are affected by ethnolinguistic heterogeneity at different level of geographical scales—within and across cities, regions, and countries,— analyses in this dissertation span the following three spatial scales of intra- and international socio-economic activities and phenomena: (i) within a city, (ii) between regions within a country, and (iii) between countries.

In terms of the featured subjects in this dissertation, following two topics are covered: (a) ethnolinguistic segregation and (b) the cost of diversity in used languages in a country and the extent of economic development. Segregation by ethnolinguistic groups, which can be observed worldwide, reveals historical persistence. This necessarily implies how preference for the same ethnic group is consistently strong in the long run, and thus, ethnic segregation is an issue of great interest. Similarly, investigating the impacts of ethnolinguistic diversity on economic and political activities has been recently attracting academic attention. Ethnic/cultural diversity and economic performance are jointly analyzed in a vast literature, wherein benefits of production complementarity stemming from ethnic diversity are expected to improve economic conditions. Unexpectedly, however, existence of the ethnolinguistic heterogeneity shows a negative impact on economic success on balance. The reason is simple—hidden behind this production benefits are the impacts on economic development given by the cost of integrating different ethnolinguistic groups. The focus is on how linguistic heterogeneity affects the cross-national economic income differences, where the communication cost among different linguistic groups is captured as linguistic distance between languages. The use of linguistic distance as between-language communication costs is based on the idea that more distant languages from one's mother tongue may be more difficult to acquire.

From the above-mentioned aspects of spatial scales and topics of socio-economic interests, this dissertation covers the following subjects on ethnicity, language, and economy, which are split into three chapters:

1. Ethnic segregation in a city
2. Regional ethnolinguistic segregation and industrial agglomeration in a country
3. Domestic and international linguistic distance and economic development

Chapter 1 analyzes residential segregation by introducing the concept of ethnicity clustering externality. In the model, both high- and low-skilled workers are perfectly mobile within a closed city that contains the center (high-skilled intensive area) and suburb (low-skilled intensive area) as workplaces. There are two types of ethnic characteristics, majority and minority, in the economy; thus, in addition to skill level, each individual is endowed with an ethnic characteristic. Minority residents obtain utility from proximity to residents of the same group, which expresses the ethnic clustering preference. Further, we assume that both ethnic groups have the same high-/low-skilled population ratios. Namely, the majority and minority groups, on average, have identical skill levels. As for land consumption, for the sake of tractability, we draw on Helpman (1998) and assume that residents in the same area consume the same amount of land. If minority individual's residence and workplace are in different areas, she faces a trade-off between the benefits of ethnic clustering and distant commuting (as well as residential congestion). The existence of this trade-off for minority people is empirically investigated by Liu (2009) in the context of Latino workers in the United States.

By analyzing stable residential equilibria, we show that, because of their ethnic clustering preferences, minority residents are more likely to cluster in one area than majority residents. In addition, when the commuting cost is low, minority residents always cluster, widening the population gap between areas. At the same time, majority households migrate to a less crowded area to avoid the residential congestion caused by minority clustering, thus reducing the population gap. In this sense, the majority acts as an equalizer of population sizes between the center and suburb under low commuting costs.

Chapter 2 investigates how regional segregation patterns are affected by industrial agglomeration and ethnic clustering, by adding the externality of ethnicity to the model of agglomeration and trade proposed by Ottaviano et al. (2002). The motivation of this analysis follows our investigation of the statistics which show that historically persistent regional segregation patterns (within countries) by ethnolinguistic characteristics can be found worldwide. In the model, skilled workers (named "workers") are perfectly mobile and work in the manufacturing sector, while unskilled workers (named "farmers") are immobile between regions and engaged in agricultural sector. There are two types of ethnolinguistic characteristics in the economy, so that in addition to skill levels, each individual is endowed with an ethnolinguistic characteristic. The economy consists of two regions, and immobile farmers are assumed to be distributed

separately by ethnicity in each region. Individuals obtain utility from proximity to the residents of the same ethnicity. Manufacturing good is differentiated, under increasing returns to scale, but agricultural good is not, whose production is characterized by constant returns to scale. Under these settings, if complete regional segregation by ethnicity arises, then this implies that industrial dispersion occurs, because both regions accommodate workers.

It is analytically shown that even under low trade costs, the ethnicity segregation/industrial dispersion pattern is in equilibrium. The essence of the emergence industrial dispersion even under low trade costs is the immobile elements in the economy. In our model, immobile farmers attached to their home region correspond to the immobile factors to bear industrial dispersion force. Indeed, our results are consistent with this—even when the trade cost is low, industrial dispersion accompanied by ethnic segregation consists of a stable equilibrium. Moreover, the model presents complete segregation equilibria for any levels of the trade costs, so that this is coherent with the examples in the real world; that is, regional segregation (within countries) by ethnolinguistic characteristics is time-persistent. Ethnic segregation patterns are, in short, persistent at any level of trade costs, while ethnic mixing distribution appears only when the costs are intermediate and ethnicity clustering preferences are less intense. Further, discrepancies of the social optimum and equilibrium are caused by that the social optimum is less sensitive to a change in trade costs, when the population of farmers (immobile factors affecting ethnicity utilities) is sufficiently large.

Chapter 3 considers the impacts of accessibility to domestic and international communication on the economic development of a nation by constructing two indexes of linguistic distance—domestic and international. While the domestic linguistic distance index captures the constraint of nationwide communication among speakers of different mother tongues, the international linguistic distance index captures the constraints of the global communication.

When analyzing economic prosperity and ethnolinguistic diversity, costs of joining various groups such as between-group communication costs always accompany the benefits of diversity. In cases, the negative effect caused by the existence of different groups, which is hidden in the shadow of positive impact by construction, may exceed the positive effect of the diversity index. While the existing literature investigates the positive effects of ethnolinguistic diversity, it is important to study the negative effects of the same, such as the costs involved (e.g., communication costs). To capture the communication cost when a society consists of different linguistic groups, we use linguistic distance between languages introduced above. This replacement of the linguistic diversity index with linguistic distance index is one of the features of this chapter, and we conduct analysis of the impact of linguistic distance on cross-country difference of economic success.

When considering communication costs among different language groups related to economic activities, not only nationwide but also worldwide language barriers exist. In order to express the domestic com-

munication cost, we construct a domestic linguistic distance index, which is calculated as a population weighted averages of linguistic distance between an individual's mother tongue and the national official language(s). On the other hand, the international linguistic distance index is the population weighted averages of linguistic distance between one's mother tongue and English (one of the world's most widely used languages). International linguistic distance index is reflective of costs incurred when global communication takes place. Then, we investigate the impacts of domestic and international linguistic distance indexes on the cross country income difference.

The main findings of this chapter are as follows. The domestic linguistic distance has a negative impact on the economic development of poor countries. Because many African countries have larger domestic linguistic distance, Africa's development tragedy can be partly explained by their problems in nationwide communication. On the other hand, larger domestic linguistic distance positively affects GDP per capita for rich countries, which is due to the diversity benefits to production. In addition, if the sample is the full set of countries instead of the poor and rich subsamples, the cost from within-country linguistic distance outweighs the benefits for improving production borne by heterogeneity, which leads to the negative impact of domestic linguistic distance on national income. Our results are distinct from those in previous literature, in which the negative feature of between-group communication, which is overshadowed by the heterogeneity of the society, is indirectly considered via ethnic diversity indexes: this study's focus is on the cost of communication between different language groups rather than the benefits from heterogeneity of society. Furthermore, only rich countries enjoy positive impact on GDP per capita when international linguistic distance is smaller. This implies that rich countries can improve their economic prosperity if the accessibility to global communication via English is improved. Particularly, we show that the capability to use English as the first language is highly advantageous for economic development.

(1679 words)

References

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