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Compensating differentials in emerging labor and housing markets: Estimates of quality of life in Russian cities ☆

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Abstract

The purpose of this paper is to see if an equilibrium model of compensating differences for amenities can be applied to a major transition economy, Russia. We analyze Russian labor and housing markets using data from the Russian Longitudinal Monitoring Survey (RLMS) augmented by city and regional-specific characteristics from other sources. Our estimated wage and housing value equations suggest that workers are compensated for differences in climate, environmental conditions, ethnic conflicts, crime rates, and health conditions, after controlling for worker characteristics, occupation, industry, and economic conditions, and various housing characteristics. We find evidence that these compensating differentials exist even after controlling for the regional pay differences ("regional coefficients") used by the Russian government to compensate public sector workers for living in regions that are designated as less desirable. Quality of life, as measured by a group of eleven amenities, varies substantially. The highest ranked cities tend to be in relatively warm areas and areas in the western, European part of the country. Our quality of life index is positively correlated with net migration into a region, suggesting workers are attracted to amenity-

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rich locations. Overall, we find that a model of compensating differentials with controls for disequilibrium yields useful information about compensation for location-specific amenities and quality of life in this large transition economy.

JEL classification: D5; H4; J3; J6; P2; P3; Q2; R1; R2

Keywords: Compensating differentials; Amenities; Hedonic implicit prices; Quality of life; Transition economy

1. Introduction

Market economies tend to generate compensating differentials in housing and labor markets for location specific amenities. These local amenities include climate, which is natural, urban conditions, which are produced, and environmental quality, which is partly natural and partly produced. In markets that are functioning smoothly, compensating differentials are a basic tool for understanding the consequences of movements of people and businesses across regions and cities. Compensating differentials are also used to estimate the values people place on goods that are not typically sold in markets and to measure quality of life across geographic locations. In Western economies such as in the United States, there have been several studies that estimate compensating differentials in labor and housing markets and which rank areas by quality of life and many more related studies. The review of this literature by Gyourko, Kahn and Tracy [23] offers a critical synthesis of more than 70 books, articles, and papers.

A related and potentially important use of the estimates of the values of amenities is as shadow prices for amenities that are not typically included in national income accounts. Construction of an index that is more comprehensive than Net National Product, such as Nordhaus and Tobin's [36] Measure of Economic Welfare, requires monetary values of the nonmarket goods and services. Green accounting requires monetary values of measures of environmental and natural resource services.[1] Considerable interest in green accounting exists in the US and, in fact, around the world; see Nordhaus [35] and Heal and Kriström [26]. If compensating differentials can be estimated for emerging markets, the prospect for successful implementation of green accounting is more promising for more of the world. In order to use a compensating differentials approach, equilibrium must exist whether or not the economy is in transition.

Compensating differentials represent an equilibrium adjustment mechanism in housing and labor markets that matches consumers/workers and firms with different preferences and production technologies. Even in a mature, market economy such as in the US one might be skeptical of the usefulness of this equilibrium model. A major study by Greenwood et al. [22] tests for spatial equilibrium. They estimate an equilibrium relative income at which no net migration would occur. By comparing the actual income to the estimated equilibrium income for each area, they find little evidence of disequilibrium for the period 1971–1988 in the US. They find that classification of areas that are amenity-rich and amenity-poor and comparing them with estimates from quality of life index values from the Blomquist, Berger and Hoehn [6] study yields only minor

[1] As discussed in Heal and Kriström [26] other approaches such as defensive expenditures and politically determined willingness to pay are candidates for estimating the monetary values of amenities. Stated preference approaches can be used to estimate the value of amenities. Hoehn and Randall [27] provide a state of the art example and Carson [10] provides an overview of contingent valuation. An alternative approach would be to make inferences from extended surveys of happiness that have been applied to macroeconomic conditions, see di Tella, MacCulloch and Oswald [13].