

## 科学研究費助成事業 研究成果報告書

令和元年6月10日現在

機関番号：14401

研究種目：若手研究(B)

研究期間：2017～2018

課題番号：17K13730

研究課題名(和文) Frozen Conflicts: the Impact of Internationally Unrecognized States on Post-conflict Recovery

研究課題名(英文) Frozen Conflicts: the Impact of Internationally Unrecognized States on Post-conflict Recovery

研究代表者

下松 真之 (Kudamatsu, Masayuki)

大阪大学・大学院国際公共政策研究科・講師

研究者番号：40791843

交付決定額(研究期間全体)：(直接経費) 3,100,000円

研究成果の概要(和文)：旧ソビエト連邦の未承認国家(アブハジア、南オセチア、ナゴルノ＝カラバフ、沿ドニエストル)の経済成長率を、夜間に撮影された衛星写真データを用いて、推定した。その結果、これらの未承認国家とそれぞれの本国(ジョージア、アゼルバイジャン、モルドバ)との間に、経済成長率の顕著な違いは見られなかった。このことは、国際的に主権国家として承認されないことが、必ずしも経済に悪影響を与えるわけではないことを示唆している。

研究成果の学術的意義や社会的意義

学術的意義は二つある。まず、内戦の経済的影響に関する統計分析は、統計データの存在しない地域については見過ごされてきた。旧ソ連の未承認国家はまさにそのようなケースである。また、内戦後の経済復興過程における政治制度の役割は、ほとんど分析されてこなかったトピックであり、未承認国家は、政治制度の一例である。社会的意義は、2014年のウクライナ危機で新たな未承認国家が生まれたように、今後も未承認国家が新たに増える可能性があり、その経済的結末を明らかにすることで、未承認国家問題を解決する重要性への含意を得ることである。

研究成果の概要(英文)：We use satellite images of the earth at night to estimate annual economic growth rates in unrecognized states in the former Soviet Union (Abkhazia, South Ossetia, Nagorno-Karabakh, Transnistria). We cannot find a discernible difference in the estimated economic growth rates between the unrecognized states and their parent states (Georgia, Azerbaijan, Moldova). This finding suggests that the lack of international recognition as a sovereign state, perhaps surprisingly, has only a limited impact on the economies of the breakaway territories.

研究分野：開発経済学・政治経済学

キーワード：未承認国家 旧ソビエト連邦 衛星写真データ 内戦 経済成長

## 1 . 研究開始当初の背景

There are two gaps in the emerging literature on the socio-economic impacts of civil conflicts. The first gap concerns sample selection bias. Those areas that severely suffer from civil conflicts do not provide socio-economic data due to the lack of statistical capacity of the government or to the lack of law and order for surveys to be conducted. The lack of data for such cases biases the estimated impacts of civil conflicts. The second gap is the role of political institutions in post-conflict recovery.

Our study fills these two gaps in the literature by focusing on unrecognized states in the former Soviet Union: Nagorno-Karabakh in Azerbaijan, Abkhazia and South Ossetia in Georgia, and Transnistria in Moldova (see the map below). These breakaway territories are a consequence of civil conflicts in which ethnic minorities sought secession from their countries. The socio-economic data is missing due to the lack of recognition of these territories as sovereign states by the international community. Non-recognition as states is a form of political institutions previously ignored in the economics literature.



## 2 . 研究の目的

Initially, this study aimed to estimate the causal impact of falling under the jurisdiction of unrecognized states on people's living standards in the aftermath of secession wars. To overcome the lack of socio-economic data, we would use the satellite images of nighttime light. As the estimation strategy, we planned to conduct spatial regression discontinuity design to compare how bright the areas are in the evening between both sides of the border that separates unrecognized states from their parent countries.

During the course of research, however, the exact data on the border of unrecognized states is extremely difficult to obtain, because the presence of the border is unofficial. The best that we can obtain is a coarse map created by the authority of unrecognized states. But the data is not accurate enough to employ spatial regression discontinuity design with the spatial resolution of 30 arc-seconds (roughly 1km x 1km squares) for nighttime light data.

Consequently, we have changed the research methodology as described below. Due to this change, we cannot claim that our findings are the causal impacts of non-recognition as states.

## 3 . 研究の方法

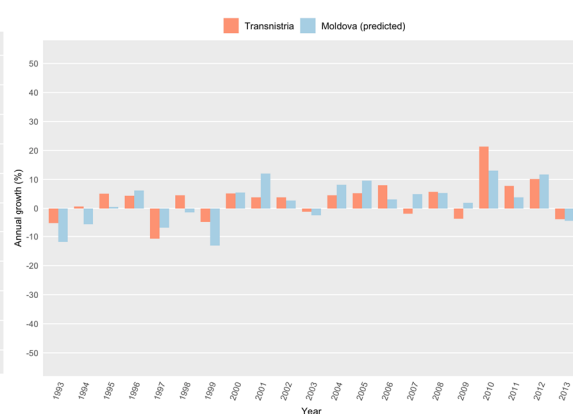
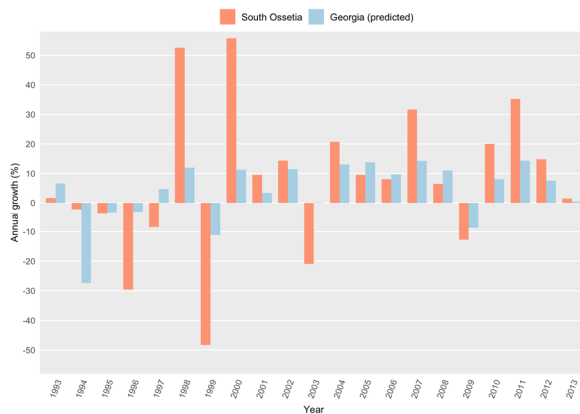
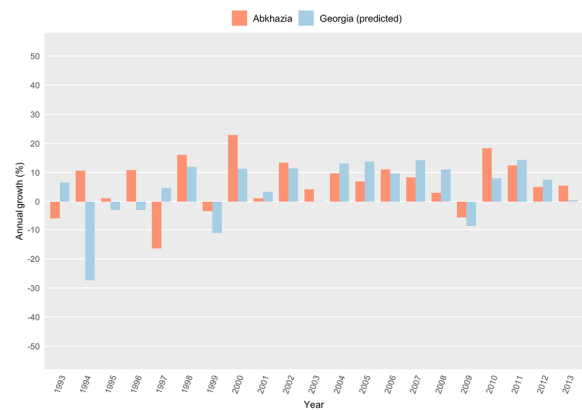
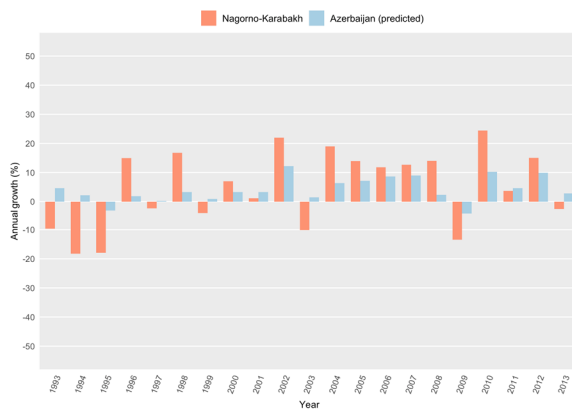
We first obtain the annual data on real GDP and nighttime light intensity for 177 countries around the world for 1992-2013. Statistical analysis on this data then tells us how many percentages real GDP goes up by if nighttime light intensity increases by 1%. This number allows us to recover the

unobserved real GDP growth rates from the observed nighttime light intensity in unrecognized states. For the purpose of comparison, we apply the same methodology to obtain real GDP growth for their parent countries.

#### 4. 研究成果

The estimated real GDP growth rates in unrecognized states are not consistently larger or smaller than the ones in their parent states, suggesting that the economic impact of non-recognition as sovereign states is limited.

The figures below compare the estimated annual real GDP growth rates from 1993 to 2013 in Nagorno-Karabakh and its parent state Azerbaijan (top left), Abkhazia and Georgia (top right), South Ossetia and Georgia (bottom left), and Transnistria and Moldova (bottom right).



**Nagorno-Karabakh:** For years 1993-1995, Karabakh's economy is estimated to have annually shrunk by 10% or more, reflecting the damage from the war of secession from Azerbaijan. From 1996 to 2004, the estimated economic growth was very volatile. For the period 2005-2011, Nagorno-Karabakh's economic growth exceeds 10% (except for 2009 and 2011), higher than in Azerbaijan proper.

**Abkhazia:** For years 1993-2003, the estimated economic growth rates are very volatile in Abkhazia though the ones in Georgia are equally volatile as well. For the period 2004-2013, Abkhazia's growth rates are positive and largely comparable to Georgia's growth.

**South Ossetia:** For the period 2004--2013, South Ossetia's predicted growth is comparable to Georgia's. From 2010, South Ossetia outperforms Georgia in predicted growth, probably reflecting the consequences of South Ossetian War in 2008: Russia actively helps South Ossetia financially while Georgia loses its trade with Russia due to the strict border control by the Russian army.

**Transnistria:** Transnistria's predicted economic growth is volatile during the entire sample period. Its magnitude is overall smaller than the other three unrecognized states. The same remarks apply to its parent country, Moldova.

Our finding of limited economic impacts of non-recognition as sovereign states complements the recent political science literature. Nina Caspersen and others argue that seeking international recognition has given politicians in unrecognized states an incentive to build state capacity and democratic institutions. The recent economics literature empirically shows that state capacity and democratic institutions lead to economic development. The above findings in this study may be interpreted as the economic consequence of state-building and democratization in unrecognized states.

Future research needs to examine whether this conclusion (1) is robust to more rigorous empirical research design and (2) applies to all the other unrecognized states. Constructing the precise data on the boundaries of unrecognized states will allow us to conduct spatial regression discontinuity design to provide credible estimates on the impact of non-recognition. Extending the analysis to include other unrecognized states outside the former Soviet Union will also help us under what conditions (such as the number of countries recognize them as states) the non-recognition as sovereign states have limited impacts on economic activities.

## 5 . 主な発表論文等

〔雑誌論文〕(計1件)

Masayuki Kudamatsu. 2019. "Observing Economic Growth in Unrecognized States with Nighttime Light." OSIPP Discussion Paper, DP-2019-E-002. (査読無し)

〔学会発表〕(計4件)

Masayuki Kudamatsu. "Economic Consequences of Unrecognized States: Evidence from Nagorno-Karabakh in Azerbaijan." Osaka Workshop on Economics of Institutions and Organizations, June 2018.

Masayuki Kudamatsu. "Frozen Conflicts: The Impact of Unrecognized States on Post-conflict Recovery." Economics Seminar at National Graduate Institute of Policy Studies, January 2018.

Masayuki Kudamatsu. "Frozen Conflicts: the Impact of Internationally Unrecognized States on Post-conflict Recovery." Kyoto Summer Workshop on Applied Economics 6th Meeting, August 2017.

Masayuki Kudamatsu. "Frozen Conflicts: The Impact of Internationally Unrecognized States on Post-conflict Recovery." Economics Seminar at Doshisha University, July 2017.

〔図書〕(計0件)

〔産業財産権〕

出願状況 (計0件)

取得状況 (計0件)

〔その他〕

ホームページ等

Data files and scripts to process and analyze data are publicly available at:

<https://github.com/mkudamatsu/unrecognized-states>

## 6 . 研究組織

(1)研究分担者

なし

(2)研究協力者

なし

科研費による研究は、研究者の自覚と責任において実施するものです。そのため、研究の実施や研究成果の公表等については、国の要請等に基づくものではなく、その研究成果に関する見解や責任は、研究者個人に帰属されます。