IPRPD
International Journal of Business & Management Studies
ISSN 2694-1430 (Print), 2694-1449 (Online)
Volume 06; Issue no 03: March, 2025
DOI: 10.56734/ijbms.v6n3a2

PUBLIC POLICIES TO PROMOTE REGIONAL AIR TRANSPORT EXPERIENCES IN DIFFERENT COUNTRIES AND LESSONS FOR DEVELOPING COUNTRIES

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Abstract

This study discusses the application of government subsidies through public policies promoting regional transport. By analysing extant government intervention in the United States, Canada, Australia, Norway and Brazil, the text identifies commonalities in their objectives (the impossibility of economic self-sustainability of air services, lack of satisfactory land transport services, potential healthcare, educational and postal access by local populations, need for national integration, among others). However, the mechanisms of existing public policies in each country or group of countries (European Community) differ substantially according to the socio-cultural and economic elements present in each context. In the European Community, for example, regional air transport services are obligatory public services for all member countries (Public Service Obligations). Its mandatory minimum standards (Level of Services) are defined by the European Community. In parallel, The United States, for instance, has programmes such as Essential Air Services. On the other hand, in the developing or underdeveloped world, government support for regional transport is negligible. Paradoxically, in developing and underdeveloped countries, regional air transport's direct benefits and externalities are shown with greater vigour. This article brings together successful experiences in many countries that could be applied in the non-developed world.

Keywords

Regional Air Transport, Developing Countries, Regional Development, Public Policies, Essential Public Services, Level of Services

1. Introduction

Although air transport is recognised as a factor in inducing economic and social development in the regional context (Air Transport Action Group, 2020), in Brazil the exploration of this market segment is incipient, either due to a lack of public policies facilitating its development, the lack of interest in large-scale aviation, or even low efficiency in small-scale airlines.

In addition to the general economic benefits provided by aviation (job creation, business incentives, connectivity, catalysing tourism activity, among others), air transport enables essential social benefits, such as access to health and educational services.

As a result of regional inequalities and Brazil's territorial dimensions, the aforementioned social services and the country's national integration gained prominence. Therefore, attention should be paid to the current dearth of public policy aimed at promoting specific air transport that will contribute to the rebalancing of its social and regional development.

Government intervention is justified where market solutions have not been satisfactory for economic and social development, as is the case with regional air transport in many countries.

The deregulation of passenger air transport that took place in the developed world between 1975 and 2000 freed airlines to seek more profitable markets, which generally correspond to markets with greater demand density.

As a result, many national governments were forced to promote incentives in the form of subsidies[1] for the development of regional air transport so that smaller communities would be addressed.

The vast majority of undeveloped or developing countries, including Brazil, still need coordinated government actions to promote regional air transport. Consequently, significant opportunities are missed to reduce regional imbalances in social and economic development. A recent study in Brazil determined that for each job generated directly in the air transport sector, 1.8 indirect jobs, 6.8 induced jobs and 14.4 jobs are generated in the catalysed sector (tourism). The latter includes direct, indirect and induced jobs. That is, a job in air transport corresponds to about 24 jobs across the country. In 2019, these jobs represented[2] about 1.6% of the total job positions filled in Brazil (Associação Brasileira das Empresas Aéreas, 2020). The study also identified that air transport activity comprised 1.4% of GDP, 1.3% of taxes and 1.7% of wages paid in Brazil.

The lack of governmental support for regional air transport is most often explained by the lack of sufficient public resources to meet the great demands in other priority areas (such as health and education), while simultaneously encouraging regional air transport. However, as will be shown, this is a false dilemma, attributable mainly to a mistaken assessment of cost-benefits in the use of public resources. Indeed, these assessments ignore the catalysts of other economic activities—especially tourism (World Travel & Tourism Council, 2022)—and the aforementioned externalities provided by air transport.

2. Literature Review

Public policy is defined as "a normative framework of action that combines elements of public force and elements of competence that tend to constitute a local order" (Muller et Surel, 2002). On the other hand, "the formulation of public policies constitutes the translation of government purposes into programs and actions that will produce some result in society" (Souza, 2006).

However, the definition of regional air transport is not uniform worldwide. Some authors and organisations refer to regional air transport connections as those in which the demand is low enough to be economically sustainable (Gordjin and Van der Coevering, 2014). Other authors and organisations classify regional air transport as consisting of air connections that connect remote regions without adequate surface access to centres of more significant economic development (Metrass-Mendes and Neufville, 2011). There are also those who conceptualise regional air transport as connections between two regional airports or between a regional airport and a non-regional one. In the latter, regional airports are those whose annual number of boarding passengers is less than a particular value or proportion of the total boardings carried out in the national domestic transport system (Bureau of Infrastructure, Transport and Regional Economics - Australian Government, Department of Infrastructure and Transport, 2012; U.S. Federal Aviation Administration, 2022).

In our opinion, there is no single definition that is more accurate than another, and thus the best definition seems to be one that fits a specific situation. In any case, the common element in the different conceptualisations presented is the absence of demand that makes the existence of air transport economically viable in places with a justifying social or economic motivation. In addition, the social or economic reasons, in this case, can be of different natures, such as national integration, access to essential public services and the promotion of tourism, among others. Furthermore, within the same country, there may be different motivations for each region or specific connection.

The fundamental issue is an accompanying lack of economic viability and social motivation, as generally interpreted by the government. For this reason, state interference is justified in these cases, implemented in public policies, according to the definitions presented at the beginning of this section.

Notwithstanding, regional air transport will henceforth be understood as involving regular air connections between a metropolitan region and a non-metropolitan region and between non-metropolitan areas, as defined by the Bureau of Infrastructure, Transport and Regional Economics - Australian Government, Department of Infrastructure and Transport (ibid, 2012).

To substantiate the thesis of the essentiality of regional air transport, a summary report will be prepared on several countries' experiences of well-structured public policies aimed at its promotion, which, with due adjustments, can be replicated in developing countries such as Brazil.

[1] Subsidies are understood here to be any measures that keep consumer prices below market levels, producer prices above market levels or that reduce costs for consumers or producers (Organisation for Economic Co-operation and Development, 2008).

[2] The year 2019 was taken as a reference as it was the last year not impacted by the COVID-19 pandemic, which drastically affected air transport.

3. Methodology

The present study is based on a comparative analysis of the experiences of different countries concerning regional air transport. The study summarises and compares regional aviation public policies implemented in the United States, Canada, European Community countries, Australia and Brazil. In the end, specific proposals are made for the promotion of regional air transport in Brazil, which, to a certain extent, can be extrapolated to the context of underdeveloped or developing countries that have access restrictions to the entirety of their national territory.

The countries focused this study were chosen considering the proportions of their territories, the size of the domestic air passenger transport market and the availability and reliability of local statistics. Norway was chosen for being part of the European Community and for offering high standards of services that are widely available to its population, which is distributed in a very fragmented territory and, many times, integrated only by air transport. From a methodological point of view, the research carried out in this study is:

- Applied because it aims to generate knowledge for practical applications aimed at solving specific problems.
- Qualitative because it cannot be translated into numbers.
- Descriptive, from the perspective of its objectives, because it describes the characteristics of a given phenomenon.
- Bibliographic, because it is based on already published material (Gil, 1994).

4. The Essentiality of Regional Air Transport

In virtually all United Nations member states, air transport is considered an essential service, similarly to the supply of water and electricity. It is, therefore, an institution in the concept of North (1990). Although it is universally accepted that the provision of essential services is the responsibility of the state, it can be provided directly by the state itself or, upon concession, by private companies, with slight variations from country to country regarding its characterisation of essentiality (International Civil Aviation Organization, 2005).

On the other hand, there is a consensus on the importance of regional air transport and its high impact on the local economy, especially in remote regions, due to its ability to economically integrate these regions into the respective regional hubs (Gordjin and Coevering, ibid), nor is the idea of the importance of airports as promoters of local economies questioned (Baker, Merkert et Kamruzzaman, MD, 2015; Ministry of Civil Aviation, Government of India, 2018). Accordingly, it is vital to discuss the causes of the global reduction in the offer of air transport services on regional routes, while the opposite is true of domestic trunk and international routes.

The generally accepted reason is that, as a result of the air transport liberalisation process[3], lines with lower demand—or regional lines—are no longer compulsorily served by airlines, which have concentrated their offer on denser and more profitable trunk routes (U.S. Department of Transportation, 2022; Congressional Research Service, 2018).

Today, there is widespread agreement on the essentiality of air transport and the relevance of its economic and social impact. There is also a consensus that the liberalisation of air transport has not resolved the specific demands of this service on low-demand connections, where state intervention is justifiable. However, the criteria adopted to solve this problem are by no means universal.

Such disparity in the performance of the states is likely due to the heterogeneity of countries' geographies and economic characteristics, in addition to their political and sociocultural institutions.

Thus, for example, the comprehensive public policy of the Norwegian state to serve cities by air transport harmonises the high standards of public services determined by the government of that country. On the other hand, the vast territory of the United States holds large pockets with little accessibility by different modes of transport, as in the cases of Alaska and Hawaii. Canada is similar to the United States but differs from Spain, Italy and France, where serving rural communities also aims to increase tourism. In Germany and the United Kingdom, the central governments intend to comply with the European Community's determinations regarding the provision of minimum standards of essential services, called Public Service Obligations[4] (Calzada and Fageda, 2013). In Australia, the

[3] The liberalisation of air transport initially took place in the United States in 1978, spreading to Western Europe in the 1980s and 1990s. New airlines introduced a free market in the air transport industry, leading to a large increase in the number of flights, a decrease in fares and an increase in the number of passengers and distances flown (Virginia Department of Health, 2017). In Western Europe, the liberalisation of air transport took place in three sets of measures ("December 1987 Package", "The Second Package", in 1990, and "The Third Package", in 1993). Each of these sets of measures progressively established a uniform legal order in the European Community, removing government control over the air transport market (Baldwin, 2020).

[4] The member states of the European Union are obliged to provide Public Service Obligations (PSO), which cover services of general interest such as public transport, postal services and medical assistance, among others.

concern with regional development has a dominant character in the government stimulus to regional aviation (Kille, Bates and Murray, 2013). In India and South Africa, in addition to regional development, the connectivity of populations in remote communities and their benefits (access to health services, postal services, for example) are significant in government policy for regional air transport (Raza and Bhattacharya, 2015; Atkinson, 2016).

5. Experiences in Different Countries

As discussed, universalities exist in the perception of the importance of regional air transport. On the other hand, there is great diversity in the public policies implemented to encourage this activity. The summaries of the most outstanding public policies to stimulate regional aviation are subsequently presented, organised according to the countries in which these policies were implemented. The annex to this study summarizes its main conclusions in the form of a synoptic table.

a. UNITED STATES

The Airline Deregulation Act of 1978 gave US airlines almost complete freedom to determine which markets to serve for domestic flights and what fares to charge for their services. However, some locations became partially or wholly unattended by air services in the period following the enactment of the Airline Deregulation Act. As a result, the US government's Essential Air Service (EAS) programme was created to ensure that small communities served by air carriers certified before deregulation maintained a minimum level of regular air service.

Additionally, the U.S. Department of Transportation (DOT) created eligibility rules for new communities wanting to participate in the EAS. These were usually adhered to by subsidising two round trips per day on aircraft with 30 to 50 seats or additional frequencies on aircraft with nine seats or less. In general, an eligible community needed to be more than 70 miles from the nearest pre-existing airport.

Currently, DOT subsidises scheduled passenger air carriers to serve approximately 60 communities in Alaska and 115 communities in the 48 contiguous states that would otherwise receive no scheduled air service. The subsidy cap per departing passenger is USD 200 unless the community is more than 210 miles from a large or medium-sized city with an airport.

The subsidy is paid at the end of each month. With few exceptions, the US government's policy is that airports belong to local or regional governments, and the subsidies paid to airlines return in part to public authorities, although not at the federal level.

The Federal Aviation Authority Modernization and Reform Act of 2012 changed the definition of communities eligible to participate in the EAS. The amendment states that to be eligible, a community must maintain an average of at least ten daily departures. The legislation exempts locations in Alaska and Hawaii and communities more than 175 miles by car from the nearest airport (U.S. DOT, ibid).

With the exception of the State of Alaska, the choice of the candidate airline to participate in the EAS follows several criteria: demonstrated reliability of the applicant in the provision of scheduled air services; availability of interline agreements with larger airlines that allow passengers and cargo to be carried to points beyond the first destination airport; and preferences of actual and potential users of air transportation from the eligible location (Congressional Research Service, ibid).

Metrass-Mendes and Neufville (ibid) report that the US system has worked well since its inception, mitigating the effects of reduced traffic in some communities. In addition, these authors attribute the success of the programme to the effective participation of the community in choosing the incumbent companies. Still, according to Metrass-Mendes and Neufville, one of the problems of the EAS is the growing government subsidies that the system has demanded.

Another important public policy the US government has implemented is the Small Community Air Services Development Program (SCASDP). SCASDP is a grant programme designed to help small communities deal with air service and airfare issues and is administered by the U.S. DOT. The EAS and SCASDP programmes differ, however. The SCASDP eligibility criteria are broader and allow the grant applicant to self-identify their air service deficiencies and propose an appropriate solution. By contrast, EAS directly subsidises air carriers and caters to a limited selection of eligible applicants. Furthermore, the SCASDP may involve revenue guarantees, financial assistance for marketing programmes, initial costs and additional studies (U.S. DOT, 2022b).

The regional aviation support programs implemented in the United States have been highly successful in meeting their objectives. However, expenses incurred have escalated, reaching more than ten times the updated values since its implementation (Congressional Research Service, 2018). Thus, in 2023, US$ 400 million were committed to non-refundable expenses (U.S. Department of Transportation, 2023). This value corresponds to around US$0.50 per passenger boarded on all North American domestic flights (around 820 million passengers annually). This amount is very significant, even for an economy like the North American one.

b. CANADA

The Canadian government sponsors several programmes aiming to promote regional air transport. These programmes focus on subsidising airports in remote regions above the 50th parallel, at which level climatic adversities mean that air transport is the only viable method of accessibility. The objective of these programmes is airports and air connections that could be more economically sustainable. The maintenance of these programmes is fundamentally political (territorial occupation and commitment to supporting indigenous communities, called "First Nations", in the north of the country) or assistance (supply of food, health services and mail, among others).

The most important of these programmes is the Airports Capital Assistance Program (ACAP). This programme supports small regional airports, essential air services (including air ambulance, search and rescue, and wildfire response) and air services (scheduled and chartered) that connect communities to regional, national and international markets for goods and services (Government of Canada, Transport Canada, 2022).

There is no standard for the ownership of airports in Canada, even though its government is explicitly in charge of progressively transferring the operation of regional airports to local or provincial governments. Only airports with annual departures between 1,000 and 200,000 passengers are eligible to receive subsidies from the Canadian government (Metrass-Mendes, Neufville and Costa, 2011).

Canada's objective in domestic passenger air transport is the coexistence of dominant airlines (Air Canada and Westjet, with market shares in 2018 of 53% and 37%, respectively), with smaller companies operating regionally (Air Canada, 2019).

The airline system that serves remote regions is highly fragmented, involving more than a dozen airlines, with the predominant format being companies with the participation of local governments (Metrass-Mendes, Neufville et Costa, ibid).

In the same way as in the case of the United States, subsidies for regional aviation practiced by the Canadian government have consumed large amounts of public resources. Thus, since its creation in 1995 until 2022, ACAP has made investments equivalent to around US$900 million in more than 1,200 projects (Government of Canada, 2023). This amount corresponds to around US$0.90 per passenger boarded on total domestic flights in that country (around 35 million annually, on average for the period, according to official Canadian government statistics). Although this value can be considered high, no record was found that its behaviour was significantly upward, as in the North American case).

c. AUSTRALIA

The deregulation of air services in Australia, which began in 1990, significantly impacted domestic aviation, tripling demand in 10 years. As there were no restrictions on foreign capital in the shareholding control of airlines as a result of the deregulation of this sector, new low-cost operators of foreign origin began operations, accentuating competition in the domestic market. Among the effects observed during this process was a reduction in the supply of regional air services because airlines were no longer obliged to serve less profitable markets (Kille, Bates et Murray, ibid).

Australia is a country with large territorial dimensions (7.7 million km2) and with tremendous demographic imbalance. Its population is predominantly located on the outskirts of the country, with the largest concentration in the east and southeast. A smaller portion of the population is located around the city of Perth in the west. The centre of the country (called the Outback) has a very sparse population (U.S. Central Intelligence Agency, 2019). Consequently, these conditions forced the Australian government to create programmes to promote regional transport.

The Remote Air Services Subsidy Scheme (RASS) is the Australian government programme for regional subsidy routes (Australian Government; Department of Infrastructure, Transport, Cities and Regional Development, 2022). RASS is part of the Australian Government's Regional Aviation Access Program (RAAP). RASS subsidises a regular weekly airlift service for passengers and goods such as educational materials, medicines, fresh food and other urgent supplies to communities in remote and isolated areas of Australia. These communities are located far from supply points, and road access is often interrupted for several months during the rainy season. Indeed, scheduled air services are the only reliable means of transport. Mail is carried on these flights under a separate contract with Australia Post.

The communities served by RASS are typically cattle stations or indigenous communities with approximate populations ranging from six to 200 people. RASS serves roughly 372 communities in remote and isolated areas of Australia, improving their accessibility through air transport subsidies. These include 86 indigenous communities. Currently, seven air transport operators are participating in the RASS (Australian Government; Department of Infrastructure, Transport, Cities and Regional Development; ibid).

Government expenditures on regional aviation subsidy programs is around the equivalent of US$30 million annually (Australian Government; Department of Infrastructure, Transport, Cities and Regional Development, 2024), which corresponds to US$0.40 per passenger boarded on total domestic flights in Australia.

d. NORWAY

With a population of around 5.4 million inhabitants and a continuous area whose coastline extends over 25,000 km, Norway's population is concentrated in the south. To the North, a significant part of its territory lies within the Arctic Circle. Its geography and unbalanced territorial occupation mean that Norway has a substantial number of remote communities whose access to large centres is possible only by air.

On the other hand, being a member of the European community, Norway must adhere to its Public Service Obligations. It has defined parameters for regional air transport that include same-day returns to the country's capital and quick access to the administration of regional services, airports with international assistance and advanced health services (large hospitals) (Bråthen et Eriksen, 2018). The high service standards required by the Norwegian government (Level of Services[5]) mean that significant volumes of subsidies are paid to regional operators.

"The Forpliktingar til offentleg tenesteyting (in English, Obligations for public service) – FOT routes contribute to people being able to stay, work and live throughout Norway," Transport Minister Jon-Ivar Nygård says. "With this move, we tie the country closer together, lower the costs of living in an elongated country and contribute to viable local communities." (Aviation Week, 2023).

"Proposals for the country's 2024 national budget say that support for FOT routes will rise from NOK942 million (US$87.1 million) to NOK1,935 million (US$178.9 million)". (Casey, David, Aviation Week, ibid). This amount corresponds to around US$ 17.9 for each of the 10 million domestic air passengers transported annually in Norway (Statistisk sentralbyrå, 2024).

e. BRAZIL

The history of commercial aviation in Brazil has always been marked by government presence, which a military ministry had exercised until the 2006 installation of the National Civil Aviation Agency (of a civil nature).

The most recent and long-lasting government action to encourage regional aviation was the creation of the Integrated Regional Air Transport Systems (SITAR), which were instituted by Decree No. 76,590/1975 and extinguished in 2000. SITAR divided the national territory into five regions now exclusively served by five regional air transport companies (chosen by the discretion of the federal government) operating under a fifteen-year concession. National airlines were formally barred from participating in the shareholding of regional airlines. Nevertheless, VARIG participated in SITAR through its Rio Sul subsidiary. However, this was prohibited by Decree No. 76,590/1975 (Moreira, 1993). On that occasion, TAM Transportes Aéreos Regionais was created, originating from TAM Táxi Aéreo Marília, which today is part of the LATAM group. Furthermore, a tariff surcharge of 3% was applied to domestic air tariffs and transferred to the Fundo Aeroviario, previously appointed in 1967.

Disregarding non-relevant differences in calculations, resulting from inaccuracies in the data relating to the period 1975-2000 (high Brazilian inflation, exchange rate volatility, among others), it is possible to estimate that the subsidies granted to SITAR had been from order of US$ 66 million in 2000 (in current values). This amount represents around US$ 2.35 per passenger in the total of 28 million passengers boarded on domestic flights in Brazil in the same year (Agencia Nacional de Aviacao Civil, 2025).

The tariff surcharge complemented the revenues of regional air transport companies. SITAR has undergone successive changes in its funding rules, and legal challenges have been filed by national line operating companies. A significant number of these disputes were related to alleged privileges of regional companies, which could, under certain operational conditions, carry out flights of privileged trunk lines. Thus, for example, regional airlines were authorised to fly between the central airports of the cities of São Paulo (Congonhas), Rio de Janeiro (Santos Dumont), Belo Horizonte (Pampulha) and Brasília. At the time, these markets were called the "golden quadrangle" of commercial aviation as they were the largest and most profitable in the Brazilian domestic market (Moreira, ibid).

Even though the SITAR has been dissolved, the Aviation Fund continues to exist under the Fundo Nacional de Aviação Civil (FNAC) name. Indeed, in 2018 it generated revenue of R$5.0 billion and a disbursement of R$1.1 billion in the same year (Controladoria Geral da União, 2019).

Currently, Brazil has no public policy to encourage regional air transport. Air connections that fit the definition adopted here are operated by market mechanisms, and in many of these connections there is a private monopoly. Consequently, the high fares attached to these connections camouflage operational inefficiencies, among which the use of inadequate aircraft and the precariousness of the airport infrastructure stand out.

New entrants are inhibited because most of these connections are operated by large Brazilian airlines and their affiliates, who have little interest in modifying the current system.

[5] In the European Community, the level of air services provided by LOS is evaluated based on the following factors: number of round trips per day; number of seats offered per day; number of stops and routes; annual frequency; aircraft size; volume of toxic gas emissions; tariffs; and comfort factors.

6. Conclusions

Public policies to stimulate regional air transport are widely implemented in developed countries. Still, they remain in their infancy in developing and underdeveloped countries, even if their potential benefits are even more significant therein. Three groups of reasons justify the existence of these public policies. First, regional air transport is widely recognised as essential for regional integration and economic development, with its positive economic impacts fully quantifiable. In this case, job creation and contribution to the regional GDP are included. Second, it provides the populations served with access to non-economic benefits linked to meeting minimum acceptable living standards in the most advanced societies. Thus, among these benefits are access to health and education services. Thirdly, regional air transport facilitates beneficiary communities' fulfilment of aspirations linked to their institutions, such as their values, customs and traditions. This is the case in access to government centres, cultural integration of indigenous peoples and strengthening the feeling of national integration.

The eligibility criteria of airports and airlines are varied and applicable according to the peculiarities of each country or region. However, there are some criteria common to most public policies implemented across different countries. First, subsidies for regional air transport consider this mode of transportation as a system including airports, airlines and other elements of aeronautical infrastructure. Second, regional air transport subsidies are applied when air services need to be more economically sustainable. Third, subsidies are used when other modes of transportation fail to adequately meet the needs of communities, be it due to distance, travel time or climate hostility. Fourth, the application rules obey the characteristics of the geographic, economic and sociocultural environment. Fifth, the eligibility criteria must be clear and access to subsidies, in the case of airlines, is achieved through public bidding processes. The airlines that win these processes are those that propose to comply with the service standards stipulated by the government at a minimum amount of subsidy required in return. Sixth, service provision contracts are at most five years. Seventh, governments strive to ensure that there is no monopolisation of regional air services provided to a given community.

In countries where institutions are more evolved (including the culture of the population, ethical standards, the vision of the common good, etc.), public policies aimed at promoting regional air transport tend to be successful, as in the examples discussed in this article.

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ANNEX – Quick reference table

Features and achievements of foments to regional aviation in different countries

Features	**United States**	**Canada**	**Australia**	**Norway**	**Brazil**
Provides the populations served with access to non-economic benefits	Yes	Yes	Yes	Yes	Yes
Facilitates beneficiary communities' integration to their institutions, such as their values, customs and traditions	Yes	Yes	Yes	Yes	Partially
Considers regional air transport as a system	Yes	Yes	Yes	Yes	No
Applied when air services need to be more economically sustainable	Yes	Yes	Yes	Yes	Partially
Other modes of transportation fail to adequately meet the needs of communities	Yes	Yes	Yes	Yes	Partially
Clear eligibility criteria	Yes	Yes	Yes	Yes	No
Time extension of contracts (years)	< 5	< 5	< 5	< 5	15
Government restrictions to regional monopolisation	Yes	Yes	Yes	Yes	No
Government expenses	Moderate	Moderate	Moderate	Very high	High
Development of national institutions	High	High	High	Very high	Low
Successfulness	High	High	High	Very high	Partially