Up in the Air: The Role of Airports for Economic Development

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Abstract:

Our research examines the role of airports in regional development. Specifically, we examine two things: (1) the factors associated with whether or not a metro will have an airport, and (2) the effect of airport activities on regional economic development. Based on multiple regression analysis for U.S. metros, our research generates four key findings. First, airports are more likely in larger metros with higher shares of cultural workers and warmer winters. Second, airports add significantly to regional development measured as economic output per capita. Third, the effect of airports on regional development occurs through two channels – their capacity to move both people and cargo, with the former being somewhat more important. Fourth, the impact of airports on regional development varies with their size and scale. Overall, we find that the effect of airports on regional development is roughly equivalent to that of human capital and greater than high-tech industry.

Key words: Airports, economic development
Introduction

As the narrator of Walter Kirn’s *Up in the Air* oxymoronically observes, “planes and airports are where I feel at home” (2001, p.6). Airports are usually the first thing we see when we travel to a new place—often looking exactly like where we’ve just been: the same shops, the same restaurant franchises, and the same backlit advertisements for global brands. But if airports might, at first glance, seem disconnected from their locations, they are a critical component of the connectivity of people and places. Airports are much more than places to catch planes, attend an in-transit business meeting, or do some duty-free shopping; they are a critical component of regional economic development.

To probe the effects of airports on regional economic development, our research focuses on two key things. We first examine the factors associated with whether or not a metro has an airport in the first place. Second, we then turn to the impact that airports have on regional economic development, examining the effects of the size and scale of airports activities and also the degree to which moving people as well as goods matters to regional development. We develop models for and use multiple regression analysis to examine each of these issues.

Our research informs four key findings. First, airports are more likely to be located in larger metros and those with higher shares of individuals in cultural occupations and with warmer winters, factors that may also reflect higher levels of tourism. Second, airports add significantly to regional economic development measured as economic output per capita when controlling for other variables. Third, airports effect regional development both by moving people as well as cargo, with the effect of moving people being somewhat more important. Fourth, it is not just having an airport, but the size and scale of airport activities that matter to regional
development. Our overall findings indicate that when controlling for other factors, airports’ effect on regional development is roughly equivalent to that of human capital and greater than that of high-tech industry, both of which have been identified as major contributors to regional development in prior literature.

The remainder of this paper proceeds as follows. The next section describes the literature on the subject followed by a discussion of our models, variables, and data before turning to our findings. Finally, we sum up our conclusions and discuss their implications.

**Concepts and Theory**

There is considerable literature on airports and economic development. In their book *Aertropolis*, Kasarda and Lindsay (2011) argue that airports represent a new model of regional economic development. Airports are among the largest investments a city and region can make and play a key role in connecting the places they serve to the global economy.

The connection between airports and regional development has also been noted in several studies. A careful statistical study by Green (2007) found associations between airport passengers and both metro population and employment growth. A study by Brueckner (2003) also notes the close connection between airline passengers and regional employment growth, finding that a ten percent increase in passengers in a metro generates a one percent increase in regional employment. Brueckner finds, however, that airports and airline service contribute more to knowledge and service based businesses than to industrial manufacturing.

Rosenthal and Strange (2004) note that airports play a role in spurring regional productivity due to the positive externalities that stem from the agglomeration
economies that develop around these locations. Bel and Fageda (2008) find the availability of non-stop, direct international flights is a key factor in how corporate headquarters select locations in Europe.

Other studies explore airports as hubs of economic activity. Button and Stough (2000), and Button and Lall (1999) advance the concept of airports as hub and spoke networks. Lian and Rønnevik’s (2011) study of Norway find that passengers favor a region’s large, main airport as opposed to smaller local airports due to the magnitude of services available. Kanafani and Abbas (1987) note that the success of smaller regional airports depends on finding locations that makes them independent from larger regional hub airports. Halpern and Bråthen (2011) find that the regional impact of airports depends on regional size and the demands passengers have on the airport.

Airports, especially hub airports, connect places to the global economy. Neal (2010; 2011a; 2011b) argues that airports are critical components of “city connectedness,” linking key hubs in the global economy. He contends that, “a city’s economic fortunes are closely tied to its position in networks of interurban exchanges, with cities occupying more central positions experiencing relatively greater growth and stability” (p. 167). Airports can help to create ‘favored positions’ in the global economy, which provide, “superior access to global flows of people, goods, money and information” (Bowen, 2002, p. 425).

It is important to also consider what is being transported through airports. Airports move two kinds of things: people and goods or cargo. A good deal of the literature on airports and economic development has focused on moving goods. For example, the benefits that an airport provides to a region and firm have also been demonstrated to influence the exporters in locational decisions, specifically on where to locate their business (Lovely et al, 2005). In their 1998 study, Blomström and
Kokko (1998) found that the spillover effects of a multinational corporation benefit the host country’s economy, in particular the impact of foreign investment on increasing the capabilities of local firms.

In today’s knowledge and creative economy, the ability to move people may matter even more than moving goods. As Romer (1986) has shown, the principal input into the process of wealth creation is knowledge (ideas) generated, recombined and exchanged among individuals. While companies bring together key inputs in the previous industrial epoch, cities increasingly play that role in today’s innovation-driven knowledge economy (Florida, 2002). Increasingly, physical and social infrastructure facilitates the interaction and concomitant sharing of ideas, which confers regional advantage in the places where these ideas are developed. Airports can shrink distance and facilitate interaction across longer distances. Audretsch and Feldman (1996) note the importance of face-to-face interactions, which air travel can spur, to innovation and the generation of new ideas. Gaspar and Glaeser (1998) document the importance of face-to-face interactions, even in light of growing information technology services and electronic communication mediums. Airports can increase face-to-face interaction by bringing people together from different cities and regions. Venture capitalists often say they will consider investments that are in a relatively short direct flight radius of their office – so they can interact with principals and monitor these investments. In fact, Green (2007) notes that the most precious cargo on-board airplanes is likely to be people.

It is difficult to precisely disentangle causality between airports and economic development. On the one hand, airports can add to economic development by their movements of goods and people along with other factors identified above. However, airports are also more likely to be located in larger regions with higher levels of
economic development, more people, larger industries and so on which increases demand for their services. While the lack of good time series data leaves us unable to fully test for this interdependency, we are aware of it and our interpretation of the results take it into account.

Model, Variables, and Methods

Our research draws from this literature to examine the effects of airports on regional development. This section introduces our statistical approach, variables, and methods. We undertake two separate models. The first examines whether or not a metro has an airport in the first place. The second then considers the effects of airport activities on economic development. The first model is structured as follows.

Model 1: \[ \text{Airport} = \text{Size} + \text{Technology} + \text{Human Capital} + \text{Climate} + \text{Unemployment} + \text{Bohemians} \]

The dependent variable in this model is a dummy variable for whether or not a metro has an airport. Data are from the Airports Council International, North America and cover the year 2010.

The second model examines the effects of having an airport on regional economic development.

Model 2: \[ \text{Economic Output per Capita} = \text{Airport Effects} + \text{Size} + \text{Technology} + \text{Human Capital} + \text{Climate} + \text{Unemployment} \]

We use four separate variables for airport activities, as described below. The dependent variable in this model is the standard measure of economic performance -
economic output (measured as gross regional product or GRP) per capita. These data are from US Commerce Department’s Bureau of Economic Analysis (BEA). The data are for the year 2010. Our data set covers all U.S. metros. Thus, the significance levels below refer to the actual strength of the correlations, rather than stochastic uncertainty.

**Independent variables**

Our models include the following independent variables.

*Airport Variables:* We use four separate variables for airports and airport activity.

*Airport Factor:* Our base variable is a common factor based on three standard measures of the size of the airport activity: flights (takeoff and landings), passengers (arriving, departing, and direct transit), and goods or cargo (in metric tons). These are based on 2010 data from the Airports Council International, North America. Each is expressed in per capita terms. Their combination into a single variable makes sense from a modeling perspective. It is not feasible to include all of them in a multiple regression model since they partly describe the same thing. This can generate estimation problems due to multicollinearity and, even more seriously, it could lead to interpretation problems with the model. We use factor analysis to combine the three measures into a single variable (see Srivastava, 2002). The Airport Factor variable explains 68 percent of the total variation of the three variables. Figure 1 maps the Airport Factor across US metros.

(Figure 1 about here)
*Airport Cargo:* To look at the effects of moving people versus goods, we also separate out airport cargo and passengers in our models. Airport Cargo is measured in loaded, unloaded freight, and mail in metric tons per capita. The data also include transit freight, and are from the Airports Council International, North America for 2010.

*Airport Passengers:* Airport Passengers is measured as the number of arriving and departing passengers per capita (transit passengers are only counted once) and is from the Airports Council International, North America for 2010.

*Airport Dummy:* We also employ an airport binary variable to control for airport effects regardless of size in our model for regional economic development.

*Population:* This is a measure of regional population size for the year 2010 and aims at capturing market size. It comes from the Census American Community Survey.

*High-Tech Industry:* This is a measure of regional concentration of high-tech industry. It is based on the Tech-Pole Index (see DeVol, Wong, Catapano, and Robitske, 1999). It captures the percentage of the region’s own total economic output that comes from high-tech industries in relation to the nationwide percentage of high-tech industrial output as a percentage of total U.S. high-tech industrial output. The data are for the year 2006 and come from the US Census County Business Patterns.

*Human Capital:* This variable measures the share of adults with a bachelor’s degree or more. The variable is for the year 2010 and comes from the Census American Community Survey.

*Unemployment Rate:* The share of the population that was unemployed in July 2010, as reported by the Bureau of Labor Statistics.
**Climate:** This variable reflects average temperature in January. The data are from the U.S. Geological Survey and is an average for several decades of temperature measuring.

**Bohemian Index:** This is location quotient for arts, design and entertainment related occupations and is also based on data from the 2006 U.S. Census. It is a proxy for regional cultural activity and openness to new ideas as well as for tourism (Sinclair, 1998). This is included in Model 1 only because it examines the likelihood of having an airport.

Table 1 provides the descriptive statistics for all included variables in our models.

(Table 1 about here)

**FINDINGS**

This section summarizes our key findings. We begin with the findings for which metros that have airports and then turn to the findings for the effects of airports on regional economic development.

**Which Regions Have Airports?**

We begin by discussing the factors that affect the likelihood that a metro will have an airport in the first place (Model 1). The dependent variable is a binary variable (where Model 1 indicates the existence of one or several airports in a region). We run a logit regression. Table 2 summarizes the key results.

(Table 2 about here)
The model generates a Pseudo $R^2$ of .525. Population is the strongest variable in the model. Climate is also positive and significant. Airports are more likely in places with warmer winter temperatures. There are several reasons this might be the case. Warmer winter temperatures mean less snow and better winter flying conditions. It also likely reflects the broader shift in population to the South and West that has occurred over the past fifty years. Large metros in the South and West, for example Miami, Dallas, and Los Angeles, are also well positioned logistically to serve as gateways to major foreign markets.

The Bohemian Index is positive and significantly associated with the presence of airports. This may reflect two kinds of mechanisms. First, metros with higher levels of bohemians are more likely to be open to new people and ideas. These places are also more likely to have been more highly travelled even before the advent of air travel. Second, metros with higher levels of cultural creatives are also likely to be more attractive to tourists and business travellers looking for entertainment.

Human capital and high-tech industry are both insignificant. This result is surprising. In the case of high-tech industry, it may simply reflect the fact that airport location has been fixed for decades, while high-tech industry location has changed over time. Human capital levels also tend to be fixed over time across regions (see Berry and Glaeser, 2005). Unemployment is also insignificant.

Simply put, our findings indicate that airports are more likely in: bigger metros, those with warmer climates, and regions with higher levels of openness and/or tourism.
Airports and Economic Development

We now turn to our findings on the effects of airports on regional economic development (Model 2). Recall our dependent variable is economic output per capita and our independent variables include airports, in combination with population, high-tech industry, human capital, and climate. Table 3 summarizes the bivariate correlations, which show the relationships between variables and can be compared to the regression coefficients in Table 4 below. Conflicting signs or significances may reflect multicollinearity, which bears upon our interpretation of the regression coefficients.

(Table 3 about here)

We begin with the simple bivariate correlations (Table 3). The Airport Factor variable is strongly correlated with regional economic development with a correlation coefficient of .507, among the highest in our analysis. The variable Passengers per Capita is also strongly related with a correlation of .506. The correlation for Cargo per Capita is slightly weaker (.478). Moving people, as well as goods, is significantly associated with regional development. These correlations are only slightly lower than for High-Tech Industry (.583) and Human Capital (.571) two factors that have been very closely tied to economic development according to the research literature. The correlation between airports and regional development is stronger than that for airports and regional size measured by Population (.422). Climate (-.138) and Unemployment (-.430) are both negative and significant. We should note that these correlations only concern metros with airports and account for the relationship between the overall size of airport activity and economic output per capita. It points to
an association between metros where airports move passengers and cargo, and economic output, but does not specify the direction of causality.

To further sort out the associations between airports and economic development, we turn to multiple regression analysis. The model is a basic OLS regression. The dependent variable is economic output per capita. The independent variables include the four Airport variables - Airport Factor, Passengers, Cargo, and Airport Dummy - as well as Population, High-Tech Industry, Human Capital, Unemployment, Climate, and the Bohemian Index. We employ the four different Airport variables one at a time to sort out their relative effects on economic output. With the exception of the Airport Factor, all independent variables are expressed in log form. The coefficients from these regressions can thereby be interpreted as elasticities.

For each regression, we conduct a Breusch-Pagan test to check for heteroscedasticity issues (all with p-values around 0.9, which indicates absence of heteroscedasticity). Table 4 includes three permutations of Model 2a (Eq. 1-Eq. 3) as well as Model 2b (Eq. 4), summarizing their results.

(Table 4 about here)

Equation 1 explains economic output per capita with the Airport Factor, which is positive and significant, and stronger than the Population and High-Tech variables, which are both insignificant. The relatively high VIF values indicate that a certain degree of multicollinearity is present in the model, but out of these variables, the Airport Factor comes out the strongest. Human Capital and Unemployment are both significantly related to GRP per Capita, while Climate is insignificant. While Climate
significantly adds to the likelihood of having an airport in the first place (as per above), it does not add to economic output in this multivariate regression context.

Equation 2 substitutes the Airport Factor with a variable for the “moving people” aspect of airports – Passengers per Capita. This variable is positive and significant. The R2 Adjusted value decreases slightly when we only consider this aspect of airport activities. The coefficient suggests that economic output per capita increases by 0.055 percent when passengers per capita increase by 1 percent.

Unemployment is still the strongest variable in the regression, but Passengers per Capita is approximately equally as strong as Human Capital, one of the key drivers of economic development based on prior studies (e.g. Romer, 1986; Glaeser, 1998; Glaeser, Kolko, and Saiz, 2001; Florida, Mellander, and Stolarick, 2008).

Equation 3 substitutes the “moving things” variable – Cargo per Capita. This variable is also positive and significant. Its inclusion generates an R2 Adjusted of .599, slightly more than for the Passengers per Capita regression. However, the coefficient suggests that a 1 percent change in Cargo per Capita will increase economic output by 0.023 percent – approximately half the effect of a 1 percent change in Passengers per Capita.

Equation 4 includes the Airport Dummy to probe whether the size and scale of the airport activities really matter, or if it just an effect from having an airport at all. Using the Airport Dummy also increases the sample significantly which may affect the overall results. The R² for this model is .509. The Airport Dummy is significant, although it is weaker than the size variables. Just having an airport adds significantly to Economic Output per Capita, but having an airport with a lot of activity adds even more. High-Tech Industry becomes significant in this model, alongside Population. Human Capital now becomes somewhat weaker than in Equations 1 and 2.
Taken together, our findings indicate that airports matter when it comes to regional economic development. Their effect is considerable and is even comparable to the effect of Human Capital (measured as the share of adults with a college degree). Our models indicate that airports are relatively more important than Population or High-Tech Industry, (though it is important to note our airport variables may likely pick up information associated with them). Our research finds that airports contribute to regional development both by moving people as well as moving goods.

**Conclusion**

Our research has examined the role of airports in regional economic development across two dimensions. We first examined the factors associated with whether or not a metro has an airport. Next we probed the effects of airports on regional development. Priority was placed on examining how the size and scale of airport activities and the moving of people or goods matter to regional development. We examined these questions through a series of multiple regression models.

Our research generates four key findings. First, we find that population size is the most important factor in explaining which metros have an airport in the first place. Larger metros with more people will generate more demand for airports. Having an airport is also associated with warmer winter climates and higher levels of artistic and culturally creative bohemians, which may also reflect higher levels of tourism. Interestingly, there is no statistically significant association between having an airport and human capital, high-tech industry or unemployment. Having said this, it is important to reiterate the fact that most airports were established long ago and would not be affected by today’s levels of technology, human capital, or unemployment, even though these structures tend to be fairly consistent over time. Overall, our
findings here suggest that having an airport is a function of being a larger, more developed region.

Second, our analysis also examined the effects of airports on regional development. Here, we find substantial evidence that airports play an important role in regional economic development controlling for a wide range of factors.

Third and related to this, it is not just having an airport, but the size and scale of airport activities matter according to our analysis, with larger airports having a bigger positive effect on regional development. This makes intuitive sense: Larger airports will move more passengers and goods into and out of metros having a bigger effect on their output. This in turn helps to shed light on the complex issue of causality. While airports tend to be concentrated in larger more developed metros (as per above), the fact that larger airports have a bigger effect on regional development suggests that airport activities matter above and beyond the effects of regional size.

Fourth, we find that airports affect regional development through two primary channels – “moving people” and “moving goods.” Here, our analysis finds that moving people has a relatively larger effect than moving goods - a one percent change in passengers per capita has roughly twice the effect on economic output as a one percent change in moving goods. This suggests that airports may play a slightly greater role in the knowledge economy which is in line with Green’s (2007) contention that the most precious cargo being moved by and through airports is people.

This brings us to the issue of causality which in the case of airports, as with many aspects of economic development, is a complex, cumulative process. On the one hand, airports are more likely to be located in bigger regions with more passengers and more demand, which is what we find. On the other, airports also bring
development to regions. We find that airports have a substantial effect on regional
development and also that larger airports bring higher levels of regional development,
controlling for other factors including population size. The effect of airports is similar
to that of human capital and greater than high-tech industry, two key factors in
regional development.

While we cannot say what comes first, we can say airports matter. This is also
ture of many other factors that shape economic development, which is an ongoing,
evolutionary, path-dependent, and cumulative process. We encourage future research
based on longer-time series data on this important issue.
References:


http://research.martinprosperity.org/papers/Gabe%20Florida%202008%20Housing%20Boom%20and%20Bust.pdf


### Table 1: Descriptive Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airport Factor</td>
<td>125</td>
<td>-2.064</td>
<td>2.290</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Passengers per Capita</td>
<td>131</td>
<td>0.17</td>
<td>100.5</td>
<td>30.93</td>
<td>25.10</td>
</tr>
<tr>
<td>Cargo Tonnes per Capita</td>
<td>124</td>
<td>0</td>
<td>6.91</td>
<td>0.15</td>
<td>0.685</td>
</tr>
<tr>
<td>Economic Output</td>
<td>359</td>
<td>14855</td>
<td>94852</td>
<td>41584</td>
<td>12295</td>
</tr>
<tr>
<td>Population</td>
<td>359</td>
<td>55226</td>
<td>18919983</td>
<td>717141</td>
<td>1596336</td>
</tr>
<tr>
<td>High-Tech Industry</td>
<td>320</td>
<td>.0002</td>
<td>8.5273</td>
<td>.2376</td>
<td>.847</td>
</tr>
<tr>
<td>Human Capital</td>
<td>362</td>
<td>.1135</td>
<td>.5688</td>
<td>.2518</td>
<td>.077</td>
</tr>
<tr>
<td>Unemployment</td>
<td>359</td>
<td>3.40</td>
<td>32.20</td>
<td>9.540</td>
<td>3.014</td>
</tr>
<tr>
<td>Climate</td>
<td>341</td>
<td>3.95</td>
<td>66.50</td>
<td>36.050</td>
<td>12.204</td>
</tr>
<tr>
<td>Bohemians</td>
<td>322</td>
<td>.000</td>
<td>2.195</td>
<td>.512</td>
<td>.371</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>316</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 2: Logit Regression for the Likelihood of Having an Airport

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-34.688***</td>
<td>(-5.55)</td>
</tr>
<tr>
<td>Population</td>
<td>2.344***</td>
<td>(4.85)</td>
</tr>
<tr>
<td>High-Tech Industry</td>
<td>-0.018</td>
<td>(-0.08)</td>
</tr>
<tr>
<td>Human Capital</td>
<td>-0.959</td>
<td>(-0.89)</td>
</tr>
<tr>
<td>Unemployment</td>
<td>-0.622</td>
<td>(-0.70)</td>
</tr>
<tr>
<td>Climate</td>
<td>1.568**</td>
<td>(2.56)</td>
</tr>
<tr>
<td>Bohemians</td>
<td>1.944***</td>
<td>(3.69)</td>
</tr>
</tbody>
</table>

| N                          | 290         |
| Pseudo R²                  | 0.529       |

Notes: z-values within parentheses.
*** Significant at the 1 percent level, ** at the 5 percent level
Table 3: Bivariate Correlations for Gross Regional Product (GRP) per Capita

<table>
<thead>
<tr>
<th>Variable</th>
<th>Economic Output per Capita</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airport Factor</td>
<td>.507***</td>
</tr>
<tr>
<td>Passengers per Capita</td>
<td>.506***</td>
</tr>
<tr>
<td>Cargo per Capita</td>
<td>.478***</td>
</tr>
<tr>
<td>High-Tech Industry</td>
<td>.583***</td>
</tr>
<tr>
<td>Human Capital</td>
<td>.571***</td>
</tr>
<tr>
<td>Population</td>
<td>.422***</td>
</tr>
<tr>
<td>Unemployment</td>
<td>-.430***</td>
</tr>
<tr>
<td>Climate</td>
<td>-.138**</td>
</tr>
</tbody>
</table>

*** Significance at the 1 percent level, ** at the 5 percent level

Table 4: OLS Regression Results for Airports and Regional Economic Development

<table>
<thead>
<tr>
<th>Variable</th>
<th>Eq (1)</th>
<th>VIF</th>
<th>Eq (2)</th>
<th>VIF</th>
<th>Eq (3)</th>
<th>VIF</th>
<th>Eq (4)</th>
<th>VIF</th>
</tr>
</thead>
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<tr>
<td>Constant</td>
<td>12.155***</td>
<td>(21.077)</td>
<td>11532***</td>
<td>(26.882)</td>
<td>11.380***</td>
<td>(27.355)</td>
<td>11.130***</td>
<td>(39.017)</td>
</tr>
<tr>
<td>Airport Factor</td>
<td>0.098***</td>
<td>(2.797)</td>
<td>5.938</td>
<td>-</td>
<td>5.938</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Passengers per Capita</td>
<td>-</td>
<td>(2.617)</td>
<td>0.055***</td>
<td>2.335</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cargo per Capita</td>
<td>-</td>
<td>(3.093)</td>
<td>0.023***</td>
<td>1.439</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Airport Dummy</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.078**</td>
<td>(2.490)</td>
<td>2.029</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Population</td>
<td>-0.011</td>
<td>(-0.273)</td>
<td>6.687</td>
<td>0.017</td>
<td>5.438</td>
<td>0.015*</td>
<td>4.174</td>
<td>0.042*</td>
</tr>
<tr>
<td>High-Tech Industry</td>
<td>0.015</td>
<td>(0.783)</td>
<td>5.811</td>
<td>0.030</td>
<td>5.991</td>
<td>0.015</td>
<td>5.806</td>
<td>0.029**</td>
</tr>
<tr>
<td>Human Capital</td>
<td>0.380***</td>
<td>(3.359)</td>
<td>2.704</td>
<td>0.287**</td>
<td>2.706</td>
<td>0.386***</td>
<td>2.684</td>
<td>0.142**</td>
</tr>
<tr>
<td>Unemployment</td>
<td>-0.275***</td>
<td>(4.086)</td>
<td>1.546</td>
<td>-0.263***</td>
<td>1.531</td>
<td>-0.285***</td>
<td>1.561</td>
<td>-0.328***</td>
</tr>
<tr>
<td>Climate</td>
<td>-0.036</td>
<td>(-0.794)</td>
<td>1.399</td>
<td>-0.048</td>
<td>1.430</td>
<td>-0.021</td>
<td>1.442</td>
<td>-0.018</td>
</tr>
</tbody>
</table>

N 114 120 114 315
R² Adj. 0.593 0.567 0.599 0.501

Notes: t-values within parentheses.
*** Significant the 1 percent level, ** at the 5 percent level
Figure 1: Airport Factor for Flights, Passengers and Cargo per Capita