



Wealth Creation in Rural Communities

Wealth Creation and Rural-Urban Linkages in Central Appalachia

Briefing Paper

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Wealth Creation in Rural America

This report is part of the Wealth Creation in Rural America initiative, funded by the Ford Foundation. The aim of the initiative is to help low-wealth rural areas overcome their isolation and integrate into regional economies in ways that increase their ownership and influence over various kinds of wealth. The initiative has produced nine previous papers, which can be found at <http://www.yellowwood.org/wealthcreation.aspx>. The goal of this report is to advance the initiative's broad aim of creating a comprehensive framework of community ownership and wealth control models that enhance the social, ecological, and economic well-being of rural areas.

Author Organizations

The **Rural Policy Research Institute (RUPRI)** was founded in 1990 and receives on-going support from Congress to provide objective, non-governmental analysis regarding the impacts of public policy decisions on rural people and places. Continuous service is provided to policymakers and practitioners at the local, regional, state, national, and international levels. RUPRI is widely respected for its analysis and programs across a broad portfolio of rural policy issues from health care to entrepreneurship to regional innovation. RUPRI's program of work is delivered by a small core staff in Missouri and Washington, D.C., partnering with a broad array of scholars, analysts, and practitioners through RUPRI centers and panels.

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**BRIEFING PAPER ON
WEALTH CREATION AND RURAL-URBAN LINKAGES IN CENTRAL APPALACHIA**
Brian Dabson

This briefing paper has been prepared for the Ford Wealth Creation Working Group Learning Session in Atlanta, GA on February 23, 2010. It is a compilation of the work of many contributors including (in alphabetical order) Brian Dabson, Jennifer Jensen, Thomas Johnson, Kathleen Miller, Mallory Rahe, Dennis Robinson, and Bruce Weber. The full texts of their work will be available in the final report.

PHASE I September-November 2009

On November 6, 2009, 22 people¹ met in the offices of the Ford Foundation to participate in a “discovery discussion” on the topic of Wealth Creation and Rural-Urban Linkages in Working Regions. The starting point for this discussion was a paper, *Rural-Urban Interdependence in Central Appalachia* prepared by Brian Dabson, Thomas Johnson, Kathleen Miller, and Dennis Robinson, and a presentation by Brian Dabson of the Rural Policy Research Institute (RUPRI).

The main points of the paper and presentation were as follows:

1. Key Terms

- a. **Assets** are the natural or created attributes of a place, community or individual whose value can be enhanced by investment or reduced through neglect or abuse.
- b. **Wealth** is represented by accumulated savings (net income) that are invested in productive assets.
- c. **A truly wealthy community** is one where most or all of its assets are being put to productive use and managed in ways that continue to enhance their value.
- d. **Regions** are geographical units defined for a specific purpose – topography, hydrology, climate, trade, production, or ethnicity. They may or may not have institutional or governance associations.
- e. Wealth creation and/or retention for regions or communities is dependent upon **property rights** (who owns the assets) and the **terms of trade** (how valuable are these assets?)

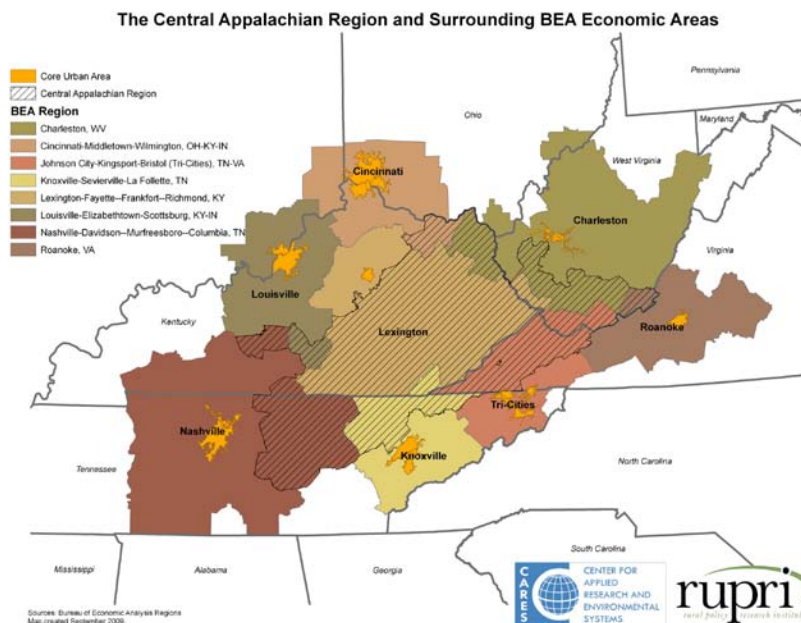
¹ Jason Bailey, MACED, KY; Alan Berube, Brookings Institution, DC; Matthew Chase, NADO, DC; Pam Curry, Center for Economic Options, WV; Brian Dabson, RUPRI, MO; Ray Daffner, Appalachian Regional Commission, DC; Frank DiGiovanni, Pablo Farias, Wayne Fawbush, Linetta Gilbert, and Jerry Maldonado, Ford Foundation, NY; Andrew Isserman, University of Illinois, IL; Deborah Markley, RUPRI Center for Rural Entrepreneurship, NC; Richard McCarthy, marketumbrella.org, LA; Kathleen Miller, RUPRI, MO; John Molinaro, Aspen Institute Community Strategies Group, DC; Shanna Ratner, Yellow Wood Associates, VT; Sherry Ristau, Southwest Initiative Foundation, MN; Mikki Sager, The Conservation Fund, NC; Janet Topolsky, Aspen Institute Community Strategies Group, DC; Sarah Watling, Central Appalachian Network, KY; Duane Yoder, Garrett County Community Action, MD.

2. Context for Rural-Urban Interrelationships

- a. Regionalism has a long history in the US that has left a complex legacy of organizations and administrative structures – Tennessee Valley Authority, Appalachian Regional Commission, economic development districts, newer regional commissions – that reflect different motivations – natural resources management, poverty alleviation, economic development, and global competitiveness.
- b. Common definitions that divide urban and rural ignore the intricate interactions of settlement, commuting, and migration, and conceal rural diversity. Rural prosperity depends on developing mutually beneficial ties between urban and rural places and recognizing the special contributions they each offer.
- c. Place-based strategies are increasing in importance as Federal policy – OMB policy for FY 2011 budgeting, Livable Communities legislation, 2008 Farm Bill on rural collaborative investment serve as examples.

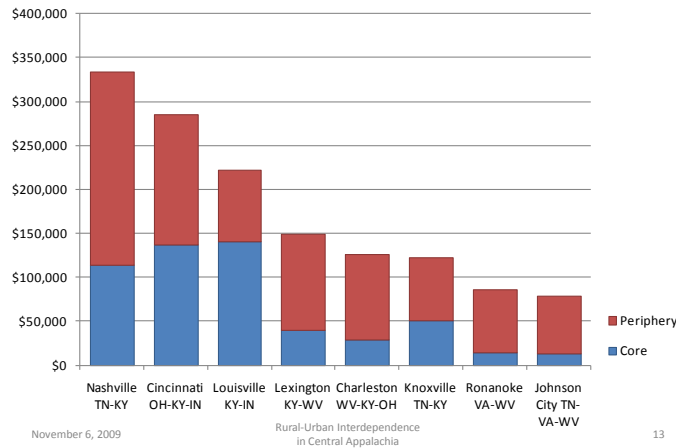
3. Rural-Urban Linkages Study

- a. **A Social Accounting Matrix** is a means of linking a region's "current account" – flows of production, consumption, savings, and investment to its "capital account" – the accumulated stock of wealth and capital. These are usually measured using economic indicators, but they can be extended to include social and environmental indicators.
- b. The nature and strength of flows between regions and between core and peripheral areas (urban and rural) vary according to the size and economic base of the region or economic area, and the degree to which the economy is dependent on trade with other regions or economic areas.
- c. The study used two concepts: a measure of economic connectedness (or openness) to reflect the relationship between a region and the "rest of the world", and a measure of the relationship between the urban core of a region and its rural periphery. For the latter, the study considered the extent to which the regional economy was "space-based" (driven by land-intensive industries) or "proximity-based" (driven by urban exports from industries that benefit from proximity, economies of scale, and clustering).



- d. The central Appalachian region comprises 87 counties straddling Kentucky, West Virginia, Virginia, and Tennessee. The region is part of eight regional markets – Economic Areas defined by the Bureau of Economic Analysis (BEA) – the urban core in each case being located outside the region – Nashville, Cincinnati, Louisville, Lexington, Charleston, Knoxville, Roanoke, and Johnson City. The relative size of these regional economies is shown in the chart below.

Size of Regional Economies in Central Appalachia
Total Value of Production (\$million)



- e. A set of hypotheses was tested by the model, three of which were highlighted in the presentation:
- Central Appalachia does not have strong economic connections with the “outside world” reflecting a higher proportion of trade within the region than with outside the region. This hypothesis was not fully supported. The measure of connectedness or openness showed that the eight regions ranged from 37 to 51 percent (fully open = 100 percent, fully closed = 0 percent).
 - The economies of Central Appalachia tend to be more “space-based” given the importance of mining and forestry. The hypothesis was strongly supported. In all but one region (Louisville) exports to other regions were higher from the rural periphery than from the urban core.
 - There is a high degree of interdependence between the rural periphery and the urban core in Central Appalachia. The results showed a large imbalance in fund flows between urban cores and rural peripheries, with much larger flows from rural to urban emphasizing the importance of the rural periphery as a market for goods and services produced by the urban core.
- f. The following preliminary conclusions were offered:
- The economies of the urban cores and rural peripheries are relatively open but are heading in quite different directions.
 - Income generated by the rural peripheries does not stick but flows to the urban core or the “outside world.” The flows out of urban cores to rural peripheries are much less.
 - Investments in the urban core are unlikely to spill over into the rural peripheries – the benefits will tend to stay in the core.

- iv. Investments in the rural peripheries may be negatively impacted by coal-mining and by monetary flows to the urban core and the “outside world.”
- v. Rural prosperity strategies should aim to diversify their economies to reduce their dependency on coal-mining, achieve a more equitable balance of income flows with the urban core, and generate real growth in jobs and income.
- g. The study was presented as a preliminary exploration that would benefit both from some refinements to, and some expansion of the model to obtain both a more fine-grained view of the nature of rural-urban linkages and some comparisons with other regions.

4. November Meeting Responses

The paper confirmed the view that pumping dollars into rural areas to deal with underlying economic and social problems does not help that much as the money does not stay there. But there were quite different reactions from the meeting participants in regard to this notion.

- a. Generally:
 - i. Good public policy needs to be based on sound research – in this case to show for good or ill the extent of spillover effects of investment.
 - ii. Investment in rural peripheries that leads to economic benefit in the urban cores should be celebrated. What is wrong with creating jobs in urban areas for rural people?
 - iii. The reality is that wealth by-passes both urban and rural places as the money flows elsewhere – local people have little control over local resources.
- b. The spatial conversation is appropriate, but:
 - i. Experiences with regional efforts have not all been positive, partly because political constructs do not reflect the actual economy, raising issues of capacity and culture.
 - ii. Spatial analysis helps to identify opportunities but does not get to solutions; particularly if the problems are less spatial and more socio-political.
- c. The analysis is incomplete because:
 - i. It does not address the critical issue of ownership and control of assets.
 - ii. It does not make the connection between macro-policy and practice – the value of case studies.
 - iii. It does not address what actually makes wealth stick.
 - iv. It does not take into account ecological or human assets.

5. Phase 2 Work Plan

In December 2009, RUPRI and the Aspen Institute Community Strategies Group developed a phase 2 work plan that had two parallel tracks arising out of the November meeting – one addressing the challenge of how to ensure that “more of the wealth generated by economic activities or assets associated with the development and maintenance of food systems, energy, and ecosystems services remain in and accrue to the benefit of low-wealth rural or urban communities and residents within a working region,” is the topic of a separate report and presentation. The other track had two interconnected elements:

- a. Refine and expand the social accounting matrix model, with researchers from Oregon State University added to the team. Specifically, the tasks were to develop a new regionalization scheme for Central Appalachia and Oregon to try and improve the core-periphery framework, to refine and reframe the hypotheses most important to

connecting rural-urban linkages to wealth creation, and to discover patterns of similarity and difference between two natural resource-dependent regions.

- b. Explore the applicability of prosperity indicators based on the work of Andrew Isserman and others, and of relative rurality indices based on the work of Brigitte Waldorf, to the Central Appalachian analysis.

PHASE II: December 2009 – March 2010

WEALTH AND PROSPERITY IN CENTRAL APPALACHIA

1. **Prosperity Index** – developed by Andrew Isserman who was concerned that prosperity in communities was being inappropriately equated with economic or population growth rather than with other factors that can and do contribute to community well-being. The Prosperity Index is a composite of four criteria: the rate of unemployment, the rate of high school drop-outs, the rate of poverty, and the condition of housing. Counties are measured against national averages for each criterion, and are ranked according to how many exceed the national average. Thus a county that in comparison with the national average has a low rate of unemployment, a low rate of high school drop-outs, a low rate of poverty, and a low rate of poor housing conditions is regarded as being relatively prosperous, having met all four criteria. A time series of prosperity was developed by Mallory Rahe – 1980, 1990, and 2000, and these were applied to the whole Appalachian region and the Central Appalachian region by Kathleen Miller.
 - a. For the Appalachian region (410 counties), there was a clear improvement in the level of prosperity 1980-2000. The number of counties meeting none of the criteria decreased from 128 (nearly one-third) to 30 (7 percent), while the number of counties meeting all four criteria increased from nine to 44 counties.
 - b. For the Central Appalachian region (87 counties), there has also been improvement although no county meets all four criteria. In 1980, 63 counties met none of the criteria, but by 2000 this had shrunk to 20, and 12 counties had met three of the criteria.
 - c. The Central Appalachian region showed most progress in housing conditions and high school drop-out rates 1980-2000, but poverty has remained intractable with only two counties meeting the criterion in 2000.
2. **Prosperity Success Factors** – the critical question is why have some counties been more successful in improving their level of prosperity? Jennifer Jensen is conducting a set of case studies of eight counties in or close to the Central Appalachian region. They were selected because of their “persistent prosperity,” meeting three or four criteria in 2000, or their “emerging prosperity” having met none of the criteria in 1980 and three or four criteria in 2000. They were further classified as to whether they were rural/non-core or micropolitan according to OMB definitions. This work is underway.
3. **Prosperity and Rurality** – Using first the OMB classifications to assess the distribution of prosperity, and then an Index of Relative Rurality² developed by Brigitte Waldorf, Kathleen Miller was able to demonstrate a clear negative relationship between prosperity and rurality.

² The Index of Relative Rurality is a composite of four factors: population, population density, extent of urbanized area, and distance to the nearest metro area.

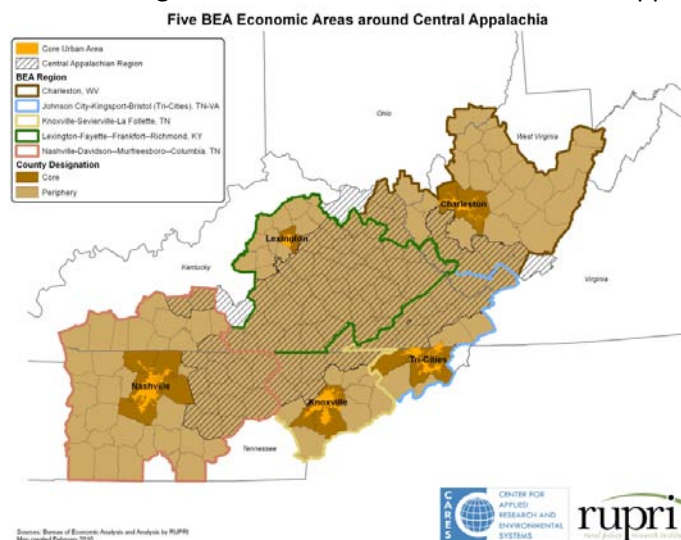
4. **Other Measures of Assets and Wealth** – There is a dearth of data on wealth and assets at the local level, but there are some indicators that can shed light on conditions in Central Appalachia and the potential for wealth generation and retention. One starting point is the *CFED Assets and Opportunities Scorecard* which grades states according to a series of indicators of assets and income, business and jobs, housing and homeownership, health care, and education. Kathleen Miller has examined some of the data that is available at the county level in Central Appalachia for these indicators.
 - a. Housing and Home Ownership – the data shows that whereas the rate of homeownership (an indicator of wealth) is below the national average in all but five counties, the percentage of owner-occupied homes that are not mortgaged exceeds the national average in every county. The affordability of homes (ratio of median housing value to median family income) in the region is less than the national average in 84 out of 87 counties.
 - b. Entrepreneurship – in 57 counties, the proportion of nonfarm proprietors as a total of nonfarm employment exceeds the national average and in eight counties, the rate is more than double the US rate. This positive indicator of entrepreneurship is partially offset by the fact that proprietors’ income exceeds the national average in only 19 counties.
 - c. Health and Health Care – the infant mortality rate is lower than the national average in 38 counties and only one county has a rate more than twice the US average. There are however, significant shortages of health professions in Central Appalachia.

INTER-REGIONAL INPUT-OUTPUT ANALYSIS

This analysis was undertaken by Bruce Weber and Mallory Rahe at Oregon State University, building upon the work of, and with input from Tom Johnson and Dennis Robinson at the University of Missouri.

Background Demographic and Economic Information

1. The 87-county Central Appalachia is not an economic region. It is part of five Economic Areas (EA) as defined by the Bureau of Economic Analysis – Nashville, Lexington, Knoxville, Charleston, and Johnson City – that together comprise 181 counties. For the purpose of this analysis, they have been classified as core counties (16) and periphery counties (165), a rough analogue to an urban-rural split. This enlarged area can be called Greater Central Appalachia (GCA).



2. The Economic Areas range in size from Nashville with a population of 2.6 million to Johnson City (Tri-Cities) with approximately 741,000. The total population of GCA is just under 7.3 million of which 35 percent live in the core counties and 65 percent in periphery counties. Central Appalachia has a total population of 2.1 million or about 30 percent of the GCA population.
3. The total goods and services produced in GCA amount to \$542.8 billion, with the largest categories being health and social services (\$44.1 billion), and real estate, construction, and transportation equipment contributing \$30-35 billion each. In addition, services (finance and insurance, business services, legal, accounting) together accounted for \$100.2 billion and durable goods (chemical products, primary metals, electric machinery etc.) for \$76.8 billion.
4. The two largest export commodities (to places outside GCA) are transportation equipment (71 percent of production is exported) and chemical products (90 percent of production is exported). An important note is that coal contributes \$7.3 billion of production (1 percent of the total) of which over 92 percent is exported, making coal the 11th largest export from GCA. Charleston EA produces over half of the total coal which represents its third largest export commodity. Other important commodities are stone, glass and masonry products of which Lexington EA is the top exporter, and food manufacturing of which the Nashville EA produces 53 percent of the GCA total and accounts for 55 percent of all exports.

Broad Regional Comparisons

5. For the purposes of this study, GCA was compared with another natural resource-rich region with a broadly similar range of EA population sizes – Oregon. The Oregon region comprises four EAs: Portland, Eugene, Bend and Pendleton, with a total of seven core counties and 31 periphery counties. The combined region has a population of over 4.1 million of which 62 percent live in core counties and 38 percent in periphery counties.
6. Comparisons show that:
 - a. In the two study regions, there is no pattern of core or periphery economic size dominance.
 - b. The GCA produces durable and nondurable manufactured goods and has low per capita incomes. It is rich in coal resources and extracts a non-renewable resource that appears to be largely owned and controlled by interests external to the region.
 - c. The Oregon region produces both electronic machinery and agricultural and wood products and has average per capita incomes at 91 percent of the US average (2007). It is rich in both timber resources and agricultural land that is used for producing wheat, cattle, vegetables and fruits. Timber is a renewable resource and agricultural products can be produced sustainably. Ownership of timber and timber land is split almost evenly between the Federal government and private owners, many of whom are local; management decisions are made under a structure of federal and state regulations. Farmland appears to be owned and managed primarily by local residents.
 - d. The largest EAs have the largest per capita incomes; Oregon EAs have higher per capita incomes than their similar-sized GCA counterparts; per capita incomes are significantly higher in core counties than in periphery counties.

Regional Wealth Creation: Caveats

7. The study uses an inter-regional input-output framework to estimate the gross flows of goods and services between the urban core and the rural periphery at the level of Economic Area (and also Component Economic Areas) in both GCA and Oregon. These flows have been disaggregated by sector and the value added calculated for core and periphery by sector. The results indicate production, consumption and value-added by place of activity, but they do not show:
 - a. These measures by place of residence of the workers, consumers or owners of productive assets;
 - b. Who owns the assets, the net worth of residents, rates of savings, or rates of investments; or
 - c. Non-market production and consumption through volunteerism, home production, environmental stocks and flows, human capital, social capital
8. To create an analytical process that does a better job of linking rural-urban linkages to wealth creation, the approach will have to be extended in three ways:
 - a. The creation of a full Social Accounting Matrix (SAM) that takes into account in-commuter and out-commuter income, local consumption by non-residents (e.g. tourism), local and non-local assets owned by residents, rates of return on these assets, debt of residents, rates of savings and investment, and transfer income.
 - b. The creation of Capital Accounts within SAM – the model used here represents ‘Current Accounts’. Wealth, broadly defined, is assets less liabilities. Wealth occurs when assets rise faster than liabilities – at a personal level, this occurs when net savings are accumulated; at a regional level, when overall net savings (net production less consumption) are positive. Wealth rises fastest when savings are reinvested in productive assets. A capital account is needed to capture this accumulation (or contraction).
 - c. The creation of non-financial accounts within the Social Accounting Matrix to capture the use and value of other types of capital – human, social, environmental etc.

Potential Wealth Creation

9. Wealth creation happens in particular places and is related to the balances on the current account in these places. The net balance on the current account is the sum of net trade balances, net federal funding flows, and net asset income flows in and out of the region. Current account surpluses opens up the possibility for wealth creation because they imply that more financial resources are entering the region than leaving in a given time period. In looking at the relationship between urban core and rural periphery, two accounts are important:
 - a. The account of each core or periphery with the economy beyond its boundaries; and
 - b. The account of each core with its own periphery.
10. The Current Account with the Outside Economy comprises three components:
 - a. Net trade balances – the relationship between the export and import of traded goods and services outside the study regions:

- i. In every one of the EAs in both GCA and Oregon, there is a trade deficit with the outside economy, ranging from 0.2 percent of total production in Portland to 16.5 percent in Lexington.
 - ii. For the largest EAs, Portland and Nashville, the cores have an overall trade surplus of 3.4 and 5.1 percent respectively – Knoxville core also has a surplus of 0.6 percent. But these surpluses are not sufficient to offset the large negative trade balances of the peripheries.
 - iii. In all of the other GCA Economic Areas, both the cores and the peripheries have negative trade balances, with the peripheries (particularly the Nashville and Lexington peripheries) having much larger negative trade balances. These deficits range from -7.6 percent in Pendleton to -19.7 percent in Nashville. By contrast, in the other Oregon Economic Areas, the negative trade balances are larger in the core.
- b. Net federal funds flows – these are of two types:
- i. Transfer payments – primarily social security payments but also unemployment insurance and income maintenance – go disproportionately to periphery economies which generally have lower per capita incomes.
 - ii. Federal non-transfer payments less Federal taxes, which come in four categories – direct payments (agricultural commodity supports, conservation reserve programs), grants (Medicaid and a vast array of large and small grants from every Federal agency), procurement (contracted goods and services by the Federal government), and salaries and wages (military personnel and civilian Federal employees). There is no clear distributional pattern.
- c. Net asset income flows – dividends, interest and rent payments go disproportionately (on a per capita basis) to core economies.
- d. Combined effect – overall, Knoxville EA has a positive balance of 6.5 percent, Charleston EA 4.6 percent, and Nashville EA 1.2 percent. But the main story is that Lexington EA has a *negative* of 4.3 percent and Johnson City EA of 1.0 percent, with very significant deficits in the peripheries of Nashville (-10.6 percent), Lexington (-9.3 percent), and Johnson City (-5.8 percent).

11. The Current Account between Core and Periphery

In every Economic Area, the core has a trade surplus with its periphery. This equates to 2.8 percent of EA production in Nashville (\$6.4 billion) down to 0.7 percent in Charleston and Johnson City (\$549 million and \$375 million respectively).

Commentary

12. Some general observations can be made about these results based on the findings themselves and other research:
- a. **Urban cores**, particularly the larger ones, tend to have positive trade balances because (i) they produce specialized services for their peripheries, (ii) urbanization and agglomeration economies may allow some real and human assets to be more productive in cores than in peripheries, and (iii) the most competitive firms tend to locate in urban cores.
 - b. **Urban cores** tend to have higher incomes due to the higher productivity of labor and assets and to the choice of wealthier individuals to live in urban areas. This in turn means that the cores may have negative Federal accounts as they pay more in taxes than they receive in

- transfer payments. It is also reasonable to conclude that urban cores will have higher asset income flows.
- c. **Rural peripheries** have negative trade balances because the value of the goods and services they produce is insufficient to pay for their consumption of goods and services from both the core and the outside economy.
 - d. **Rural peripheries**, because their incomes tend to be lower due to lower labor and other assets productivity, tend to have positive Federal accounts, and lower assets income flows. GCA per capita incomes are lower than those in Oregon, partly as a function of the age and disability status of the population. Retirement and disability payments represent a much higher share of personal income in GCA than in Oregon as do other transfer payments. While these all contribute to the regional current account and are theoretically available for wealth creation, they tend to be received by low-income populations and are thus more likely to be used for consumption than investment.
13. Wealth creation in both core and periphery regions is determined by many inter-related factors, such as: the productivity of labor and capital in a place, the impact of Federal tax codes and spending patterns, the characteristics of the populations that live there, the level of access to transportation and information, local history and culture, and where the owners of the region's assets reside. Some of these factors are difficult to influence and change – local labor and capital productivity are functions of strong agglomerative and market forces, as well as the characteristics of the population.
14. So what does this mean for wealth creation in the rural periphery? In general terms it means finding ways to:
- a. Add greater value to locally-produced goods and services in order to even out trade flows with the outside economy and with the core.
 - b. Substitute imports from the outside economy and the core with products and services that can be generated locally for the same or lower cost and for the same or higher quality.
 - c. Diversify and localize the ownership and control of the production of goods and services. Providing that this leads to investment in higher value, higher return activities, this will in turn increase wealth in the periphery.
 - d. Attract individuals with higher net worth to locate in the periphery who might be willing to invest in local productive activity for the benefit of the region, and to otherwise mobilize local capital for local benefit.
 - e. Identify new productive assets in the region, including those related to natural and cultural resources, and to encourage entrepreneurial activity to convert those assets into economic opportunity. This will produce a double benefit of adding to the capital account and yielding income streams to the current account.

NEXT STEPS

- To continue to “mine” the results of the inter-regional input-output analysis for further insights.
- To complete the case studies of prosperous Appalachian counties.
- To prepare a final report, pulling together all the work to date, including individual technical papers and discussion pieces.