A New Conceptual Framework for Rural Cultural Wealth

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1-1-2019

Acknowledgements

The paper benefited from contributions of several people. Valuable comments were received from Sam Cordes, Chuck Fluharty, Tim Wojan, Sunil Iyengar, Felicity Kelliher, Linda Essig, and Lori Pourier. However, all errors and omissions in the document are the sole responsibility of the authors.

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Abstract

The Rural Cultural Wealth Lab was established with funding from the National Endowment for the Arts to further our understanding of the relationship between rural arts and culture, innovation, entrepreneurship, and the prosperity and resilience of rural people and places. This document describes a conceptual framework within which the arts, culture, and cultural wealth can be understood, measured, and compared. While such a framework can be applied equally well in any geographic context, the focus in this document is on the rural and small city context. Examples and specific issues largely relate to this geographic context.

The framework described in the paper is built on the concept of comprehensive wealth. The comprehensive wealth framework expands to standard indicators of economic performance to include the full array of assets that determine people's quality of life and societies' sustainability. Comprehensive wealth includes both private and public investments in financial, physical, human, intellectual, natural, social, political, and cultural capital. This paper focuses on cultural capital.

The framework includes an accounting system for measuring the levels of cultural capital, and a model of the dynamic relationships that propel changes in the levels over time. The framework is preliminary and aspirational. Applied research will test the framework and lead to modifications in view of data availability and empirically tested relationships.

Key Findings

- Several countries have developed satellite current accounts for arts and culture. In general, these accounts use unique definitions of the arts and sector culture, which makes comparisons difficult.
- The National Endowment for the Arts has collaborated with the US Bureau of Economic Analysis to develop a highly disaggregated arts and culture production satellite accounting system. Estimates of the arts and culture sector's size and structure are available yearly at the US and state levels.
- A thorough literature review revealed no empirical examples of arts and culture capital accounts.
- A conceptual comprehensive arts and culture accounting system, consistent with the US arts and culture production satellite account, is proposed and developed. The proposed accounting system would expand the arts and culture satellite account to include non-market and non-monetary flows and stocks of arts and culture.
- The proposed accounting system would form the basis of an arts and culture monitoring system. The account would be an ex post record of changes in the size and structure of the sector. It would not itself describe the causes of the change but would be a starting point for a model of arts and culture dynamics.
- Several models of arts and culture dynamics are described in the research literature. Many models generate different, but complementary, hypotheses about the relationships that determine the dynamics in the arts and culture sector.
- In this paper we explore several of these dynamic models and combine their most promising features into a composite model of arts and culture dynamics. The composite model is consistent with the comprehensive wealth framework, the arts and culture production satellite account, and the extended arts and culture social accounting matrix.

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1. Introduction

This document describes a new conceptual framework within which the arts, culture, and cultural wealth can be understood, measured, and compared. While a framework of this type can be applied equally well in any geographic context, the focus in this document is on the rural and small city context. Examples and specific issues will largely relate to this geographic context.

In chapter 2, we review the comprehensive wealth framework, with an emphasis on how the framework incorporates the arts, culture, and cultural assets. The remainder of the paper is organized as indicated in Figure 1.

In chapter 3, we begin the process of developing a conceptual framework of the arts and culture sector in rural economies. We first review the literature on accounting systems that are consistent with current measures of economic performance but that can be adopted by the comprehensive wealth framework. In chapter 4, we review the literature on the size and composition of the arts and culture sector. In this chapter we also review the US Arts and Culture Production Satellite Account (ACPSA). The ACPSA will serve as the definition of the arts and culture sector in future research by the lab and will be a major source of data.

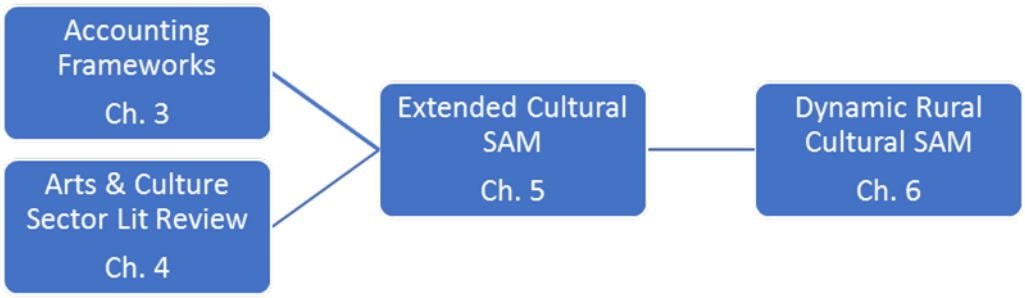


Figure 1: Structure of the Paper

In chapter 5, we describe in detail the general structure of the extended cultural social accounting matrix (SAM). This chapter explains how a standard SAM can be extended to incorporate information for formal and informal cultural activities and products.

In chapter 6, we review the research literature related to the dynamics of the arts and culture. Key conceptual and empirical insights from this literature are combined to generate a systems model of the arts and culture, and its role in economic dynamism. The resulting conceptual framework is consistent with the static definitions and sectoral structure in the extended cultural SAM.

Finally, in chapter 7, we discuss the plans for the conceptual framework and its anticipated role in the future research of the Rural Cultural Wealth lab.

2. What is Comprehensive Wealth?

2.1. Introduction to comprehensive wealth

The goal of the comprehensive wealth framework is to have a superior tool for estimating the performance of our socioeconomic systems. Performance should be based on people's well-being. Well-being or quality of life depends on people's access to, and ability to enjoy, the benefits of a full range of goods, services, and assets. In economics, the study of people's well-being is referred to as welfare economics. As Johnson et al. (2014, p. 30) point out, welfare economics "conceptually includes all aspects of well-being whether provided privately or publicly, or within or outside markets. It encompasses consumption, production, savings, investment and wealth. It permits the consideration of place, risk and uncertainty, and dynamics."

The concept of comprehensive wealth described below has evolved over the last quarter century as a result of efforts to expand our measures of societal performance (i.e., welfare) to include non-economic issues, and ultimately to include measures of sustainability. Research designed to achieve these goals first focused on amending or replacing our systems of national accounts. The earliest contributions involved extending gross domestic product (GDP) by adding indicators of environmental services. This work led to indicators such as the index of sustainable economic welfare (Cobb 1989), and integrated environmental and economic accounting (UN et al., 2014). Other extensions of our performance accounting systems add non-market social costs and benefits, for example the Genuine Progress Indicator (Cobb et al., 1995).

Extensions to, and replacements for, GDP provide more inclusive measures of the rates of production and consumption (flows) in a society. More recent contributions to the literature have focused on issues of societal sustainability, which generally involve measurement of changes in capital (stocks). These efforts include the Changing Wealth of Nations (World Bank, 2011), the Inclusive Wealth Report (UNU, 2014) and comprehensive wealth (Arrow et al., 2010, 2012; Johnson et al., 2014).

Comprehensive wealth includes all assets available to individuals, families, businesses, and the public sector. Many of these assets are accessible to families and businesses only in their place of residence, making comprehensive wealth fundamentally place-based.

Box 1: Comprehensive Wealth Capitals

Financial	Physical
Human	Intellectual
Social	Political
Cultural	Natural

Comprehensive wealth is relevant everywhere, no matter how rural or urban, but the Rural Cultural Wealth Lab is primarily interested in the issue of rural comprehensive wealth because of the unique issues that arise in sparsely populated, sometimes remote, places with a unique dependence on natural resources, and a deep cultural heritage.

The UNESCO definition of culture adopted in the internationally recognized 2001 Universal Declaration on Cultural Diversity states that

> Culture should be regarded as the set of distinct spiritual, material, intellectual, and emotional features of a society or social group, and that it encompasses in addition to art and literature, lifestyles, ways of living together, value systems, traditions, and beliefs. (UNESCO, 2014

In this paper, we describe the components and characteristics of comprehensive wealth with a focus on cultural capital, especially rural cultural capital. For a more exhaustive description of the components of

cultural wealth—stocks, benefits, investments, infrastructure, industries, products, and occupations—see the companion paper, "A Rural Cultural Wealth Data and Indicator System" (Johnson, 2018).

2.2. Stocks and flows

Each type of capital—financial, physical, natural, human, intellectual, social, cultural, and political—has both stock and flow features. One's stock of human capital (education, skills, and health) is a source of directly consumed services (quality of life, ability to enjoy the arts and to participate in various social activities) and a factor of production. Human capital is owned by individuals and is produced when individuals and the public invest in education and health care. Human capital generates benefits at levels that depend on both market conditions and individual characteristics.

Physical capital owned by individuals and families—homes, automobiles, and works of art—produces direct benefits. Other physical capital, such as roads, parks, and public art, is owned communally, generating diffused benefits.

Similarly, natural, intellectual, social, cultural, and political capital can be owned individually or communally.

Box 2: What is a factor of production?

In economics, production is assumed to involve inputs such as raw materials, energy, and services, and stocks of capital. The traditional name for these stocks of capital in standard accounting systems and social accounting matrices is 'factors of production.' Factors are composed of labor (human capital), natural capital (such as land), physical capital (machines and buildings) and financial capital. Consistent with this traditional terminology we will refer to cultural capital that is used in production as cultural factors of production or cultural capital factors of production. Cultural factors of production may depreciate with use but are not consumed during the production process as are cultural goods.

2.3. Cultural capital stocks

Cultural capital assets have symbolic value. Cultural assets are either intangible (e.g., language), or embodied in tangible artifacts (e.g., literature embodied in books). Most tangible cultural artifacts combine cultural capital with physical or natural capital (e.g., architecture, battlefield monuments, places of spiritual significance). Most intangible types of cultural capital are combined with human or intellectual capital (e.g., dancing skill and knowledge). The common element in all tangible and intangible cultural capital is symbolic value that goes beyond any utilitarian[1] value of the object.

Examples of tangible cultural capital include works of art, statuary, and historic buildings. Examples of intangible cultural capital include languages, artistic skills, arts festivals, and local identity.

Stocks of cultural capital change continuously through time. Their levels at any point in time are determined by the cumulative effect of several flows—rates of investment, rates of appreciation, rates of depreciation, and rates of destruction.

Wealth is a stock, but wellbeing depends on the flows generated by that stock.

[1] The term utilitarian is being used here not in the welfare economic theoretic sense of utility producing, but in the Oxford English Dictionary sense that something is "designed to be useful or practical rather than attractive."

2.4. The relationship between capital stocks and flows

Wealth is a stock, but well-being depends on the flows generated by that stock. There are three types of flows associated with stocks of capital—flows that increase stocks (inflows), flows that decrease stocks (outflows), and flows of benefits or services (sometimes negative) generated by the stocks.

Box 3: The rural wealth framework (RWF) principles

1. The flow of benefits from wealth can either be consumed or invested. Only the latter increases future stocks of wealth;
2. The RWF recognizes both economic (e.g., financial capital) and non-economic assets (e.g., cultural capital);
3. The RWF recognizes assets for which traditional markets exist (e.g., physical capital) and assets for which that is not the case (e.g., social capital);
4. The RWF recognizes that the eight capitals are often inter-related, sometimes complementing and sometimes substituting for one another;
5. The RWF recognizes that some assets are mobile (e.g., human capital) and others are not (e.g., most types of natural capital);
6. The RWF recognizes that certain place-based or non-mobile assets may be owned by local residents, or by those outside the locality, and that property rights determine the distribution of the benefits that flow from these assets;
7. The RWF includes both public and private assets and recognizes that some assets may be primarily owned and controlled by individuals (e.g., private land), while others may be primarily publicly controlled (e.g., highways or airports);
8. The RWF recognizes that certain non-mobile assets (e.g. national parks) have value to both those who live nearby and those who live far away;
9. The RWF recognizes that collective action and governance play a major role in wealth creation and retention. For example, the public sector is a major generator of human capital through its investments in public education and intellectual capital by creating and enforcing patent and copyright laws;
10. The RWF recognizes that the distribution of assets is very important. For example, political capital that is concentrated in the hands of a few, may not benefit the entire community, state, or region; and
11. The RWF recognizes that individuals' wealth depends not only on their own assets, and how they use them, but also on how the assets of their neighbors are used. For example, when individuals invest in cultural diversity, the wealth of other residents is enhanced.

Source: Rural Policy Research Institute.
http://www.rupri.org/areas-of-work/nea-lab/

2.5. Flows that increase capital stocks

The first type of flows (inflows) increase the stock of capital. Intentional investments in capital are products and flows of capital services not consumed in the short term but utilized to increase the stock of a capital. For example, the production of objects of art would involve the utilization of human time, material, and the services of infrastructure to produce the object.[2] Intentional cultural investment occurs when individuals, groups, institutions, businesses, or governments forgo current consumption of goods or services and instead, allocate them to an asset. For example, individuals invest in their personal cultural capital when they

[2] This does not preclude the possibility that the act of producing the art, and thus investing in cultural capital, also produces immediate consumptive value to the artist.

invest in a music or dance lesson or when they purchase a piece of art. Governments invest in cultural assets when they purchase and install public art or when they support development of local performing arts groups.

Some inflows of capital occur as a simple function of time. Consider the natural growth of forests (natural capital). Regeneration of the forest depends on the current stock and biological processes. Cultural capital sometimes grows in this way as well. Languages grow with population over time for example. This does not preclude secondary effects of policy and environment.

Some increases in capital are unintended but predictable consequences of other activities. For example, tourism that leads to contact with other cultures will enrich people's understanding and appreciation of these cultures. They may learn other languages and appreciate nuances in perspective. Another example is the effect of communication technologies on people's relationship to others and their ability to access cultural resources.

Finally, cultural asset appreciation occurs when changes in taste, legal framework, technology or other factors make an existing asset more valuable. Rising appreciation for pieces of art or music are examples of this phenomenon.

2.6. Flows that decrease capital stocks

The second type of flows (outflows) include depreciation and destruction, which reduce stocks of capital. Tangible assets such as cultural heritage sites depreciate with use, especially overuse, and must be maintained to avoid depreciation. Other cultural assets, especially intangible assets, depreciate with non-use. For example, the value of minor languages depreciates if not used, and languages can become extinct.

Capital stocks are either renewable (e.g., forests and language) or non-renewable (e.g., petroleum and cultural heritage sites). Some types of capital stocks, while renewable, are destructible or may be depreciated through overuse (e.g., forests and rural cultural districts) or underuse (e.g., social capital and language). Most types of cultural capital are renewable in the sense that the flow of benefits does not directly reduce the stock. Capital stocks may be diminished by intentional or unintentional destruction, for example, the destruction of antiquities and culturally relevant buildings during wars.

Note that the flows that increase and decrease stocks will generally not affect all places and residents the same. There may be significant redistributional effects. For example, investments in some types of public art may appeal to some residents but offend others.

2.7. Flows of benefits or services from cultural capital stocks

The third type of flow associated with cultural capital, the flow of services (benefits) from the culture, is determined by the level of production, consumption, or investment activity. The benefits of producing, consuming, and investing in cultural capital are commonly divided into intrinsic (constitutive[3]) and instrumental value (Throsby, 2010; Crossick & Kaszynskav, 2016).

[3] Tim Wojan (2018) argues that the term constitutive is preferable to intrinsic in this context. "Constitutive is a much richer synonym for intrinsic that both avoids possible negative framing and provides a much tighter fit to the definition of cultural capital. It is also a purer antonym for instrumental when constitutive is understood as something internal versus something used to achieve some external objective."

2.7.1. Intrinsic or constitutive benefits

From the perspective of comprehensive wealth theory, the value of arts and culture is its constitutive value. People's choices and behavior, either individually or communally, indicate much about the value they place on production, consumption, and investment in the arts and culture.

Like other types of capital, the stock (quantity and quality) of cultural capital limits the flows of cultural benefits. The quantity and quality of the cultural capital may constrain the number of residents that can benefit from the capital (visits to historical sites, etc.). This phenomenon is known as a rivalrous benefit. Other types of cultural capital generate benefits that are non-rivalrous. An example of a largely non-rivalrous benefit of cultural capital is recorded music.

Stocks of capital offer only the potential for flows of benefits. Flows of benefits from capital stocks occur only if the asset is accessed and employed or enjoyed. There are many ways in which an asset may be enjoyed; it might involve visiting a museum to see a new exhibit, or participating in a community event. Some people might enjoy knowing that a cultural object exists and that it will be protected (existence value). Other people might enjoy knowing that they will be able to consume a cultural item in the future (option value) (Throsby, 2001).

2.7.2. Instrumental benefits

The instrumental values of the arts and culture, from a comprehensive wealth perspective, are an indirect consequence. The production and consumption of all goods and services have indirect consequences, often referred to as externalities. Many of these indirect consequences are intentionally recognized and encouraged (or discouraged in the case of negative effects) through policy and regulation, but they are usually not the reason goods and services are produced or consumed. This is typically true of cultural production, consumption, and investment. Policy makers often justify support for the arts and culture based on their instrumental values.

Box 4: Rival and non-rival goods

A good is referred to as rivalrous if its consumption by one consumer precludes the consumption of the good by others. Examples include food and clothing. A good is non-rivalrous if it can be consumed simultaneously by several people, and if the marginal cost of providing the good to other consumers is zero. Examples of non-rivalrous goods include national defense, and broadcast television and radio. Many cultural goods (music, literature, and art for example) and cultural infrastructure (art galleries, historical monuments, and heritage architecture for example) are at least partially non-rivalrous. A significant implication of non-rivalry is that free markets for these goods usually result in under-production and consumption.

Source: Wikipedia.
https://en.wikipedia.org/wiki/Rivalry_(economics)

A large research literature hypothesizes or searches for empirical evidence of instrumental benefits of the arts and culture (e.g., Jackson & Herranz, Jr., 2002; Duxbury, 2003; McCarthy et al., 2004; Baeker, 2017).

3. A Review of current and capital accounting frameworks

3.1. Introduction to accounting frameworks

Firms generate several types of reports that indicate their financial performance. Profit and loss statements indicate the source and level of the firm's gross revenues and how these revenues have been disbursed to pay for raw materials, business expenses, labor, and profits. Profit and loss statements account for annual financial flows. Balance sheets report the market value of firms' assets and liabilities. The difference between a firm's assets and liabilities is their net worth—a measure of financial wealth. The two accounts are linked as current account savings are invested in capital assets.

Box 5: What are the National Income and Product Accounts?

The national income and product accounts (NIPA) are produced by the U.S. Bureau of Economic Analysis. NIPA are one of the main sources of data on general economic activity in the United States.

They use double-entry accounting to report the monetary value and sources of output produced in the U.S. and the distribution of incomes that production generates.

NIPA is comprised of seven summary accounts and several more detailed accounts. The main account reports gross domestic product (GDP) and its components. GDP is calculated using the income method:

GDP = Consumption + Savings + Taxes

and the expenditure method:

GDP = Consumption + Investment + Government + Exports - Imports

For more information see:

BEA Guide to NIPA

Wikipedia, National Income and Product Accounts

Similar indicators are available to individuals and families. Annual income and expenditure records describe their financial flows, while net worth statements indicate family financial wealth.

Nations, states, counties, and municipalities have similar tools to assess their economic performance. The US national current account is commonly referred to as the National Income and Product Accounts (NIPAs). National capital accounts describe the net financial assets of the public sector.

Comprehensive wealth accounting is essentially a balance sheet or capital account that includes all types of public and private assets. While it is not always possible to place values on non-financial assets, these assets can be identified and sometimes quantified in comprehensive accounting.

3.2. Current accounts

A widely used method for organizing the information in current accounts at the national, state, and local levels is the social accounting matrix or SAM (Round, 2003). SAMs organize formal financial flows into a matrix that can be used for a variety of analytic purposes. The standard SAM accounts for formal market transactions (flows) but contains very little capital account information. It excludes most non-market activities, such as volunteerism; home production; most public goods production and consumption; and investments in human, social, and many types of cultural capital, etc. However, it does provide a useful

starting point for developing a comprehensive[4] wealth accounting system. To develop a comprehensive wealth accounting system from the standard social accounting system, we add several new sub-accounts.

As indicated above, SAMs are built with information from the NIPAs, augmented with detailed interindustry flow data from the national input-output (IO) model. Market transactions recorded in the IO model are flows of goods and services from sellers to buyers and flows of money (compensation) from buyers to sellers. The goods and services represent the products of productive assets of all types, even though some assets (i.e., social, natural, cultural, and other capitals) are often not identified. Payments for goods and services accrue to the owners of the physical, human, and natural capitals (if property rights have been assigned and enforced), and to governments (through taxes). Not all capitals are owned (not all property rights have been assigned) and not all owners are compensated (not all property rights are enforced) for the capital involved in production. Nevertheless, the basic SAM can be extended to account for these non-market relationships and uncompensated flows.

Box 6: What is a SAM?

A social accounting matrix (SAM) represents all economic transactions that take place within a regional or national economy over a given period. The term 'social' indicates that it applies to the entire economic system. SAMs are static pictures of economies. A SAM combines information from the National Income and Product Accounts and the National input-output model into a square matrix in which each row has a corresponding column. Columns represent activities (production, consumption, investments) and rows represent outcomes or consequences (products, receipts, etc.). Goods and services flow from rows to columns. In general column and row totals are equal to ensure accounting consistency. It can be extended to include non-monetary accounting flows.

For more information see:

World Bank, What is a SAM? A Layman's Guide

Wikipedia, Social Accounting Matrix

Box 7: What is an input-output model?

Input-output (IO) models depict inter-industry relationships within an economy. They record the output of one industry as they become an input to another industry. In the IO matrix, columns record inputs (expenditures) of an industry, while rows record outputs from an industry. IO models are elaborations of production and expenditures in National Income and Products Accounts.

For more information see:

Wikipedia: Input-Output Model

3.3. Capital accounts

Wealth (broadly defined) is the sum of all assets less liabilities. Wealth creation occurs when assets rise faster than liabilities. Assets rise when investments and acquisitions rise faster than depreciation, obsolescence, and dispositions. Liabilities decline as liens and mortgages are retired. Wealth rises when overall net savings are positive. Wealth rises fastest when the savings are reinvested in the most

[4] A fully comprehensive accounting system would have satellite accounts related to all types of capital. Here we extend the standard accounts to include only cultural activities and products. Later it will be possible to add other satellite accounts to allow for interactions (complementarities and substitutions) between culture and other capitals (especially human, natural, and social capital).

productive assets. Savings is net production (value-added) less consumption. Thus, to fully account for changes in wealth, we need a balanced capital account for residents of a region.

Like a financial balance sheet, a typical capital account records the starting capital stock at the beginning of the year, adds increases to the stock during the year, subtracts reductions to the stock, and calculates end-of-year stocks. As an example, the United Nations et al. (2003) has proposed an integrated environmental and economic accounting system.

To estimate comprehensive wealth, we need something similar for each type of capital. Here we consider only the components of a cultural capital account. Cultural capital includes various tangible and intangible assets associated with the culture of a region (Throsby, 1999). Examples of tangible assets include works of art, architecture, heritage buildings, and artifacts of cultural significance, such as monuments. Examples of intangible cultural capital include beliefs, traditions, and practices that distinguish and identify groups of people, usually from a specific region. Some tangible cultural capital artifacts are valued in the market, while others, perhaps most, are not marketable. Even those artifacts with observed market value may generate external benefits not captured in the market price. For example, pieces of art purchased for private collections may reflect the value of the piece to the buyer, but the piece may generate option and/or existence value for other members of society.

Box 8: An example cultural capital account

Opening stock
+ Archeological discoveries
+ Production of new art and durable cultural goods
+ Rehabilitation of cultural assets
+ Repatriation of cultural assets
- Destruction of cultural assets
- Depreciation of cultural assets
- Repatriated assets to other jurisdictions
= Closing stock

An accounting of cultural capital would start with an inventory of tangible and intangible assets of a region. Changes in cultural capital would involve the production or identification of new cultural assets, and the loss or destruction of culturally significant artifacts. Potential lists of types of cultural capital, products, and investments are provided in Johnson (2018).

3.4. Place-based versus people-based accounting

It is often observed that some regions are rich, but their residents are poor. The wealth of a place usually refers to its endowment of natural resources, amenities, heritage, etc. The poverty of the residents refers to the assets, liabilities, and income of individuals. The rich-place-poor-people phenomenon is often attributed to the resource curse (e.g., Mehlum et al., 2006), which refers to cases where rich places experience slower economic growth and high rates of absentee ownership or assets.

Standard SAMs and most data series record production, employment, and tax payments by place (in the region where the production occurs). Because the returns to owners of labor and capital often reside at some distance from the place of production, place-based measures of production, income, and wealth typically differ from people-based measures. To link place-based and people-based accounts, we must know where people live and where their assets are located or employed. Thus, to calculate people-based income and consumption, we must know the following: in-commuter and out-commuter income, local consumption by non-residents (tourists for example), non-local consumption by residents, local assets owned by residents and non-residents, non-local assets owned by residents, rates of return to these assets, debt of residents, rates of savings, rates of investment, and transfer income. With this

information it is possible to measure and report consistent estimates of both place-based and people-based indicators of wealth. Together these indicators can describe the nature and causes of the rich-place-poor-people phenomena.

Like natural and built capital, place-based and people-based cultural wealth may differ significantly. The location of museums, performing arts centers, heritage sites, and other forms of cultural infrastructure provide flows of benefits much more to local residents than to those at a distance.

4. Review of the literature on the arts and culture sector

4.1. Introduction

In this chapter we review the literature on accounting systems developed for the arts and culture sector. Accounts of this type define the activities and products that are considered culture. Sectoral definitions differ from place to place and over time.

A careful review of the research literature reveals no examples of cultural capital accounts but several reports of cultural current accounts. In general, these accounts are what are known as satellite accounts of national accounts. The United Nations Educational, Scientific and Cultural Organization (UNESCO, 2009) has developed a framework for cultural statistics that it uses and recommends as an international standard for satellite accounts. For example, Statistics Canada (2011) has developed a framework largely consistent with the UNESCO system but tailored to work with official Canadian data.

Box 9: What is a satellite account?

According to the U.S. Bureau of Economic Analysis, satellite accounts "are supplementary statistics that allow analysis of a particular aspect of the economy, such as spending on travel and tourism. The data presented in a satellite account supplement and are consistent with BEA's core statistics such as gross domestic product (GDP)." Satellite accounts combine information from the National Income and Product Accounts, and the national input-output accounts. Several U.S. satellite accounts have been developed, including research and development, travel and tourism, health care, and arts and culture accounts.
For more information see:
NEA Guide to the U.S. Arts and Cultural Production Satellite Account

The most relevant accounting system for the rural wealth framework is the US Arts and Culture Production Satellite Account (ACPSA) (NEA, 2013; Cologer & Ortiz, 2017). The ACPSA will form a central component of the Rural Cultural Wealth social accounting matrix (SAM) framework. This is described in more detail below.

Box 10: What are informal cultural capital, cultural activities, and cultural products?

The distinction between formal and informal cultural capital, activities and products is important in this framework. Formal cultural capital is cultural capital that is valued by the market, even if it is not recognized as cultural capital. For example, a musician's income may be recorded as a service sector income in a standard accounting framework. In the framework described here, this income is recorded as a return to formal cultural capital.

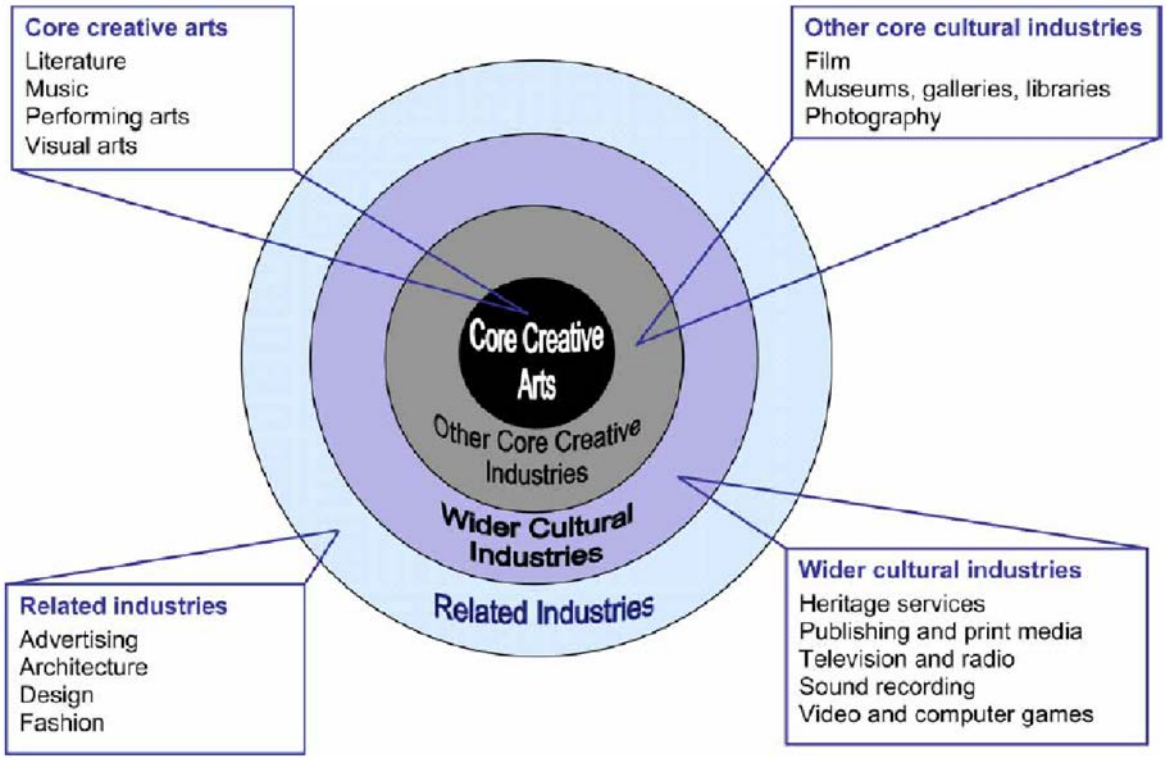
Informal cultural capital is cultural capital which does not earn some or all returns monetarily. It includes artistic skills for which individuals have weak or no property rights (music composition, public art, etc.), and common property cultural assets (language, un-copyright-protected literature).

Informal cultural activities are those which are not recognized and compensated in the market. Producing art for one's own enjoyment and use is an example of an informal cultural activity. The art produced is an informal cultural product.

4.2. Defining the arts and culture, and creative sectors

Satellite accounts typically include only formal transactions. Here our goal is to extend the measures of cultural capital and value to include informal culture. Our challenge then is to define both formal and informal arts, culture, and creative workers. We start with a

framework based on the models of DeNatale and Wassall (2007), Throsby (2008), Cherbo et al. (2008), and Baeker (2017) in which the arts and culture sector is described by concentric circles embedded within the larger economy. In Throsby's model (Figure 2), the creative arts (literature, music, performing arts, and visual arts) are at the center of the sector. Outside the core creative arts is a ring of other cultural industries, including film, museums, galleries, libraries, and photography. The third ring contains wider cultural industries, including heritage services, publishing and print media, television and radio, sound recordings, and video and computer games. The outermost ring contains related industries, including advertising, architecture, design, and fashion.



Source: Throsby 2008, Figure 1, p. 150.

Figure 2: Throsby's (2008) concentric circles model of arts and cultural industries.

Cherbo et al. (2008) introduce the creative workers and industries model, which, like Throsby's model, describes arts and culture as concentric rings, although their inner circles describe artistic workers, organized into industries. Cherbo et al. (2008) define what they term the creative sector as consisting of "a core of creative workers that includes not only creative and performing artists but also the specialized administrative and technical workers essential to the sector's productivity" (pp. 14-15). They add a ring that includes the upstream, downstream, and public infrastructure linked to the core industries, that is, the suppliers, distributors, educators, funders, brokers, advocacy groups, professional associations, etc. A model developed for the New England Foundation for the Arts by DeNatale and Wassall (2007) is very similar to Throsby's except it distinguishes tangible and intangible products of the arts and culture

sector. Baeker (2017) adds even more inclusive rings. Outside the creative cultural industries and occupations, he adds the creative industries and occupations ring that includes "businesses & jobs that require adaptation, innovation and knowledge" and the creative economy ring, which he defines as "the presence and application of creativity in all parts of the economy" (p. 38).

None of these sectoral models deny the constitutive value of art and culture, but they are primarily used to estimate the relative economic size of the sector—its contribution to employment, income, and gross domestic product (GDP). The definitions used to describe the creative economy are important for policy. A recent study of the definitions of creative economy used by 27 states and by local and regional organizations in the US (Harris et al., 2013) found significant variation in the sectors and occupations included in the creative sectors as defined by the agencies. This heterogeneity in applied definitions has important implications for policy and makes comparisons of the sector across nations and regions difficult.

Each of these models is based on static definitions of the arts and culture sector and related components of the economy in terms of businesses, organizations, and occupations. They recognize linkages among the components and roles of various types of infrastructure. They do not, however, describe how the system changes. They are, in a sense, anatomical models as opposed to physiological models. As Galloway and Dunlop (2007) and Essig (2015) point out, many of these definitions are so broad and inclusive that every industry and business is creative to some degree.

4.3. Accounting for, and measuring culture

Macroeconomic accounting systems such as the US National Income and Product Accounts (USDC 2012), the international System of National Accounts (European Commission et al., 2009), and typical regional SAMs, calculate common macroeconomic indicators such as GDP, net domestic product, gross national product, net national product, net national income, national savings, and a number of other related values. These indicators monitor annual flows of goods and services but are related to stocks of various types of market-valued capitals. As Corrado et al. (2009) demonstrate, these measures of the economy give a distorted view of the economy because they overlook various types of capital. Expenditures on such things as education, information, intellectual assets, social relationships, and cultural objects and activities are either excluded in these accounts or treated as consumption or as intermediate goods (inputs into other production processes) rather than as investments.[5] Since the value of intermediate goods are not included in GDP, this standard indicator is an underestimate of economic production. Furthermore, the rate of national savings and investment, and the total value of capital stocks, are also underestimated. Corrado et al. (2009) show that when investments in intangible capitals are correctly treated as products, some of the productivity otherwise attributed to tangible capital and labor would be instead attributed to this intangible capital. As a result, the income attributed to tangibles and labor is overestimated but the growth rate of total income is underestimated. Since expenditures on intangibles would be considered savings and investment, rather than consumption, the true national savings rate is greater than reported. Fortunately, recognition of the non-market capitals (especially

[5] A very relevant example of this is the purchase of art by businesses. As the National Endowment for the Arts (2013) points out, "In the spring of 2013, the BEA [Bureau of Economic Analysis] announced that it would begin to consider spending on "artistic originals" (i.e., films, long-running TV shows, theatrical play scripts, books, music recordings, commercial stock photography, and greeting card designs) as capital assets rather than as expenses. In retrospect, the move added more than $70 billion to the GDP in 2012" (p. v).

social, cultural, and political), combined with quite simple adjustments to the SAM structure can correct some of these distortions.

During the last two decades, significant advances have been made in expanding social accounting systems to include various non-market and intangible capitals (especially natural capital) and their associated flows to estimate broader indicators of wealth (Nordhaus, 1995 and 2006; United Nations et al., 2003; Arrow et al., 2012; European Commission et al., 2012). One approach has been to develop satellite accounts that are then linked to the financial capital accounts (Carson et al., 1994). Several countries, including the US and Canada, have recently developed satellite accounts for arts and culture (UNESCO, 2015; Statistics Canada, 2011; Kern et al., 2015; Cologer & Ortiz, 2017).

5. Extending the social accounting matrix

5.1. Introduction

A very important note of caution regarding the following discussion—the measures described below are ideal and aspirational. Many types of capital stocks and flows have important qualitative characteristics that defy quantitative measurement. Indicators can be developed for many stocks and flows, but even in these cases, the indicators we identify may not currently be available for all places and historical periods. Thus, it will not be feasible to find and report some of these data in the near term. The goal of the following discussion is to describe the ideal, so that feasible indicators can be identified based on comparisons to the ideals, and efforts made to collect data on these indicators. It is also important to remember that the comprehensive account described here can be populated with a mix of monetary indicators and quantitative and qualitative indicators.

Box 11: Terminology

In the proposed accounting system, the following terms will be used:

Activities: formal or informal production, consumption and investment activities. Entities undertaken the activities are arrayed as columns in the account.

Consequences: formal or informal outcomes of activities. Entities experiencing the consequences are arrayed as rows in the account.

Transactions: the intersection of rows and columns in the account. Transactions may involve partial or complete compensation. Compensation is a flow from the entity in the row to the entity in the column.

We propose an extension to the standard social accounting matrix (SAM) in which the formal cultural economy is identified within (but not subtracted from) the standard SAM, and arrayed next to the standard SAM. We then identify informal cultural activities and products and array these next to the formal sub-accounts. This design creates a three-by-three system of sub-accounts in which the interactions between the formal economy, formal cultural economy, and informal cultural economy are all identified individually. This extended system is depicted in Figure 3. As in standard SAMs, the columns are activities (production, consumption, payments, and investment) and the rows are results (inputs, outputs). For example, formal cultural activities have their impact on the formal economy in the North

This approach maintains the standard SAM, adds sub-accounts that conform to the US Arts and Culture Production Satellite Account, and expands the account to include informal cultural products and activities.

Central (NC) sub-account, their impact on other components of the formal cultural economy in the Central (CC) sub-account, and their impact on the informal cultural economy in the South Central (SC) sub-account.

Three of the sub-accounts—the NC, West Central (WC), and CC sub-accounts—are components of the formal cultural satellite account. These will be based on the data contained in the US Arts and Culture Production Satellite Account (ACPSA) but will be organized in a way that highlights the relationships

between formal culture and the overall economy. The five sub-accounts that involve informal cultural production and consumption will be entirely new and provide supplementary estimates of cultural capital's contribution to well-being. This approach maintains the standard SAM (North West [NW] sub-account), adds sub-accounts[6] that conform to the US Arts and Culture Production Satellite Account (NC, WC, CC and East Central [EC] sub-accounts), and expands the account to include informal cultural products and activities (NE, EC, SW, SC and South East [SE] sub-accounts). This design produces several alternative indicators of the cultural sector.

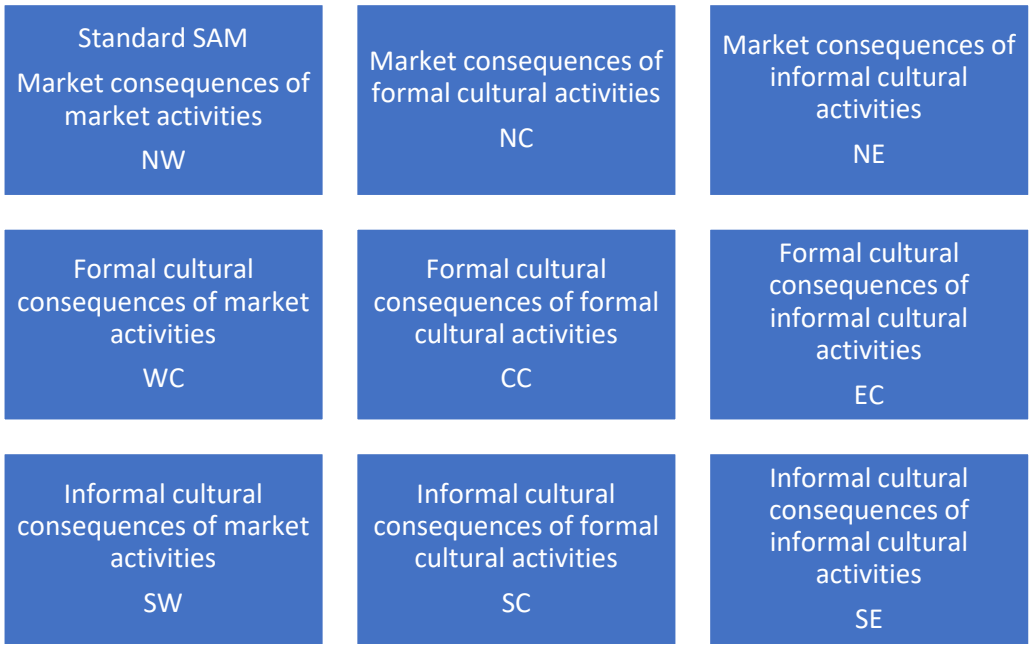


Figure 3: Schematic of a social accounting matrix with culture satellite sub-accounts

5.2. The standard SAM—market consequences of market activities

The standard SAM (the NW sub-account in Figure 3) is described in detail in Figure 4. Standard SAMs are symmetric (each row has an associated column). Standard SAMs are said to be rectangular because they identify both industries and goods. The industry activity columns list each industry's use of inputs (goods), and the goods activity columns list which industries produce each good.[7]

The entries in a standard SAM are always in monetary terms. Each cell in Figure 4 is a matrix whose dimensions are determined by the disaggregation of the categories (industries, goods, types of households, types of capital, etc.).

[6] The formal culture sub-accounts in this framework will be based on, and consistent with, the US Arts and Culture Production Satellite Account (NEA, 2013; Cologer & Ortiz, 2017).

[7] In SAM terminology these cells are referred to as the *use matrix* and *make matrix*, respectively.

	***Production***		***Factors of production***	***Institutions***				***Link to capital account***	***Rest of world***	
	Production activities (industries)	***Goods & services***	***Factor demand***	***Businesses & organizations***	***Households (market activities)***	***Local government***	***Non-Local governments***	***Investment***	***Rest of world***	***Totals (financial)***
Production (industries)		Products								Total revenues
Goods & services	Intermediate inputs				Household consumption	Local government purchases	Non-local government purchases	Capital purchases	Exports	Total goods & services
Factors (labor, land, and financial capital)	Factor payments					Factor payments	Factor payments		Factor payments	Total factor payments
Businesses & organizations			Operating surplus		Transfers	Transfers & subsidies	Transfers & subsidies		Transfers	Organization revenues
Households			Payments to households	Transfers, pension, interest	Inter-household gifts	Transfers to households	Transfers		Transfers	Total household income
Local government	Indirect taxes			Direct taxes	Direct taxes		Transfers		Transfers	Local government revenues
Non-local governments	Indirect taxes			Direct taxes	Direct taxes					Non-local government revenues
Savings	Business savings			Organization savings	Household savings	Net local government savings	Net non-local government savings			Total savings
Rest of world	Intermediate imports	Final imports	Payments	Payments	Remittances	Payments				
Totals (financial)	Total expenditures	Total goods & services	Total factor income	Organization expenditures	Household outlays	Local government expenditures	Non-local government expenditures	Total financial investment		

Figure 4: Standard social accounting matrix – current account

SAMs are constructed so that activities (production, consumption, and investment) are listed across the columns in the table. In Figure 4, the columns include payments by producing industries for inputs, payments to factors of production, expenditures by institutions (households, businesses and organizations, and governments), expenditures for capital purposes, and payments from non-resident households and businesses.

The consequences of these activities and recipients of the expenditures are listed in the rows. For example, in Figure 4 the rows include the receipts by industries for the goods they produce, the receipts by goods owners from buyers, the receipts by factors of production for their role in production, etc. The values in all cells are the market-determined values that the activity in the column pays in compensation to the category in the row.

Each column in a SAM has a corresponding row. In general, the column total equals the row total, indicating that all monetary flows are accounted for. For example, each industry's gross receipts equal its expenditure on inputs, payments to factors of production, taxes, and savings.

The extended account provides an opportunity to account for cases when the producer's value of a good or service differs from that of the user, or when externalities mean that some stakeholders are not fully compensated for others' activities.

Together, the row and column entries in a SAM trace the flow of money from the sale of goods and services to the industries that produce them. Money then flows from producing industries to other industries to pay for the inputs used to produce the goods and services and for the primary factors of production (payments to labor, capital owners, and governments—roughly equal to gross domestic product). Next, the account records how payments to factors of production are divided between 'institutions'—households, business organizations, and governments. Household income, when supplemented with transfers from government, becomes gross income that pays for consumption of goods and services, direct taxes, and savings. Similarly, the operating surplus of businesses is supplemented with transfers (subsidies), which then flow to households, taxes, and business savings. Governments receive revenue from indirect and direct taxes, which they spend on goods, transfers, and savings.[8] Some of the goods and services are produced outside the region (regional imports), and the flow of money is out of the region to the rest of the world, but this expense is approximately balanced by sales of product to non-resident households and businesses (regional exports). Differences between imports and exports is the trade deficit or surplus, differences between government receipts and expenditures is the government deficit or surplus, and differences between capital inflows and outflows is the capital account deficit or surplus.

Note that the value in any cell of the standard SAM represents two flows—a flow of goods or services from the entities in the row to the entities in the column, and a flow of compensation from the entities in the column to the entities in the row. It is assumed that the market process ensures that the entities providing the goods and services are compensated at a level equal to the marginal value of the goods

[8] Savings by households, businesses, and governments may be negative.

and services to both entities. The extended account provides an opportunity to account for cases when the producer's value of a good or service differs from that of the user, or when externalities mean that some stakeholders are not fully compensated for others' activities.

5.3. Market consequences of formal cultural activities

The NC sub-account of the expanded SAM records the formal monetary impacts of formal cultural activity in the region on the formal economy. This sub-account, highlighted in Figure 5, will define the cultural sector consistently with the ACPSA. Entries in this sub-account of the SAM are recorded in monetary terms. The values recorded in this sub-account are included in the NW sub-account (the standard SAM) but are reorganized and recategorized to conform to the ACPSA.

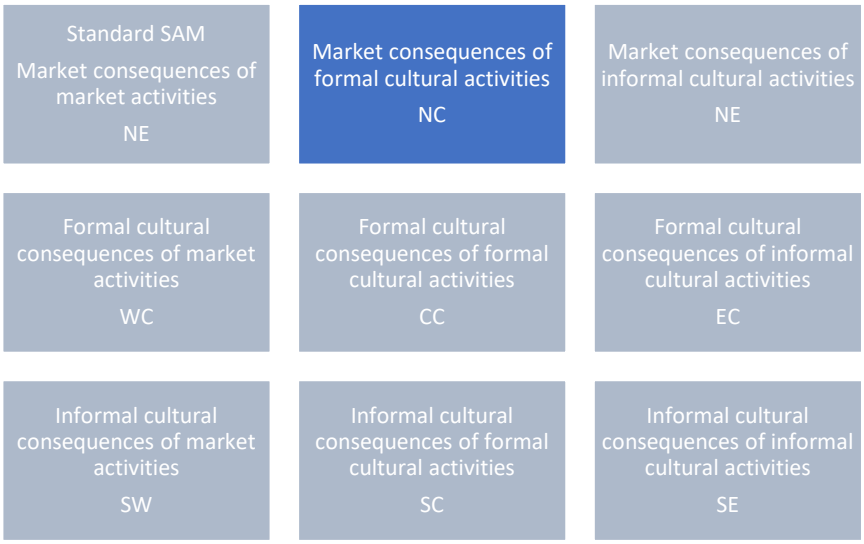


Figure 5: Market consequences of formal cultural activities

This sub-account will produce several useful indicators related to the formal cultural sector, including the size of the formal cultural sector, payments to owners of cultural capital, revenues and expenditures of cultural organizations, household outlays for cultural goods and services, exports and imports of formal cultural products, cultural expenditures by local and non-local governments, and total investment in formal cultural capital.

5.4. Market consequences of informal cultural activities

The NE sub-account of the expanded SAM records the economy-side formal monetary consequences of informal cultural activity in the region. This sub-account is shown in Figure 6. Entries in this sub-

Figure 6: Market consequences of Informal cultural activities

account of the SAM are recorded in monetary terms. The values in this sub-account are included in the NW sub-account of the SAM and in the ACPSA but are not identified as cultural activities. Flows recorded in this sub-account are those that are redefined as cultural activities and consequences because of the more inclusive definitions of cultural production, consumption, and investment in the comprehensive wealth framework. For example, expenditures on certain types of entertainment and travel are treated as consumption in the standard account but treated as investments in cultural capital in the comprehensive wealth framework. Another example is the sales that eating and drinking places realize when musicians perform informally nearby. In this sub-account these values are identified, isolated, estimated, and recorded as formal consequences of informal arts and culture activity.

This sub-account generates several indicators that describe the size of the informal cultural economy and the relationship between the informal cultural economy and the overall formal economy.

5.5. Formal Cultural consequences of market activities

Figure 7 displays the extension of the standard SAM to isolate the formal cultural consequences (rows) of market activities (columns). This sub-account is a second component of the cultural satellite account. The elements in this sub-account include only formal (compensated) consequences of the activities in each column. For example, artists may sell some of their art. The compensation they receive is included in the NW sub-account, but it is isolated and reported again here in the WC account.

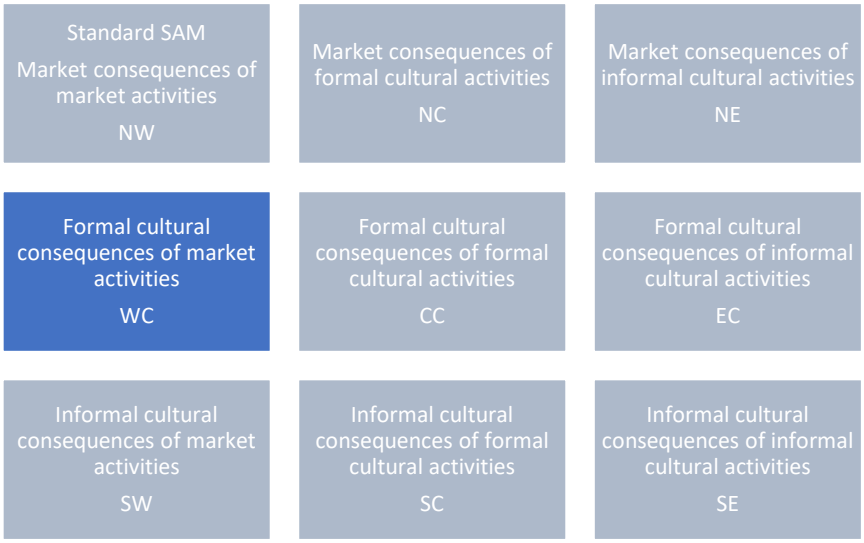


Figure 7: Formal cultural consequences of market activities

This sub-account will produce several cultural indicators. These indicators will focus attention on the contributions of all formal activities in the economy to formal cultural industries and individuals. For example, this sub-account will indicate the economy-wide investments in cultural capital.

5.6. Formal cultural consequences of formal cultural activities

This CC sub-account (Figure 8) is the third component of the cultural satellite account. It describes the interrelationships within the formal cultural sector. The values recorded in the sub-account are included in the standard SAM but reorganized to reflect the definition of the cultural sector and cultural goods and services.

This sub-account will report several unique indicators that will highlight the internal relationships within the sector.

5.7. Formal cultural consequences of informal cultural activities

Formal cultural consequences (a subset of economy-wide consequences) of informal cultural activities are shown in the EC sub-account (highlighted in Figure 9). Entries in this sub-account are in monetary terms and are included in the values reported in other formal economy sub-accounts. The values reported are extracted from the formal transactions that have been classified as non-cultural, or as consumption. In this sub-account these values are isolated, estimated, and recorded as informal arts and culture consumption, production, savings, or investment, as appropriate.

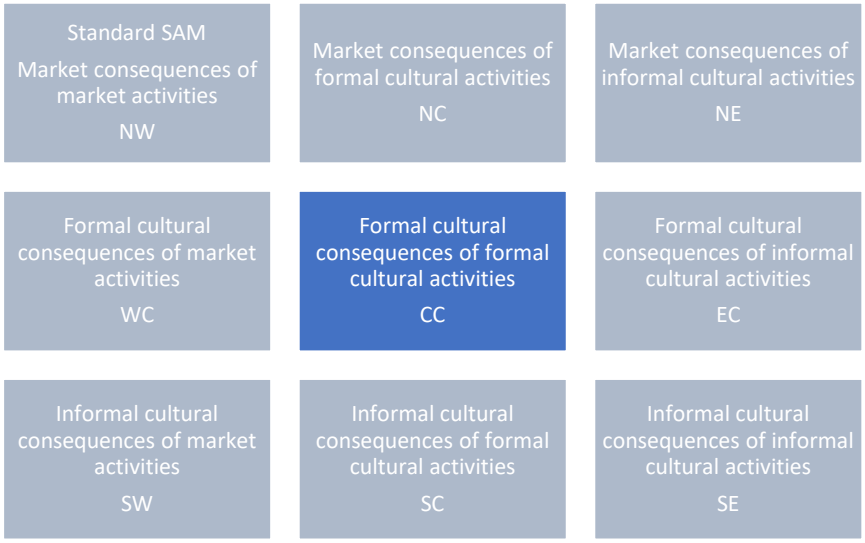


Figure 8: Formal cultural consequences of formal cultural activities

This sub-account summarizes the cultural consequences of informal cultural activities, including cultural externalities, cultural goods and services consumed, income produced, revenues generated for cultural organizations, revenues generated for governments, and savings. It is important to remember that these are only measured impacts on the formal cultural sector.

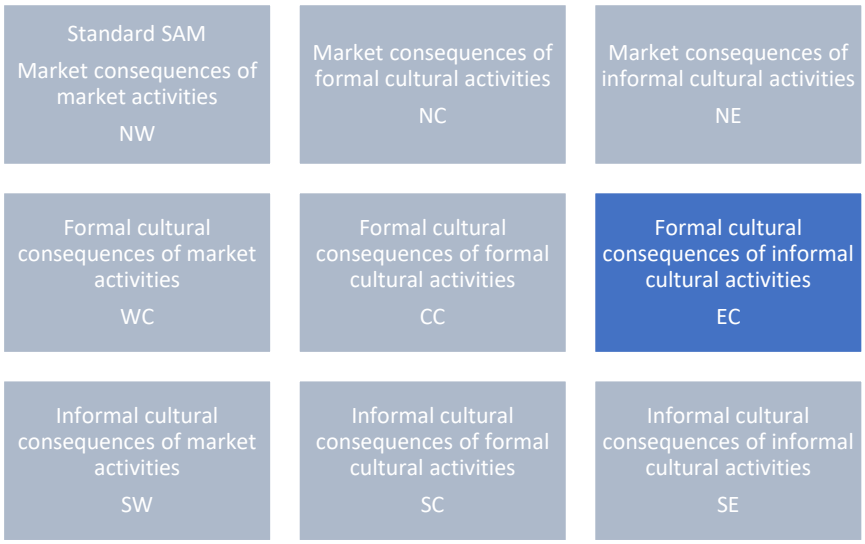


Figure 9: Formal cultural consequences of informal cultural activities

5.8. Informal cultural consequences of market, formal, and informal cultural activities

The remaining sub-accounts of the expanded account (the bottom row in Figure 10) contain uncompensated consequences of the activities in each column. The entries in these sub-accounts differ fundamentally from the formal sub-accounts. First, the elements in these sub-accounts are typically not in monetary units Informal (uncompensated) human inputs will generally be recorded as person-years or hours. For example, artists may sell some or all of their art. The monetary compensation they receive

is included in the NW and NC sub-accounts if the sales are reported as formal income. The remaining personal value of the art to the artist is an informal cultural consequence and will be recorded in the SW and SC accounts.

If sales are not reported as income or based on barter, transactions are informal consequences of informal activities and will be recorded in the SE sub-account.

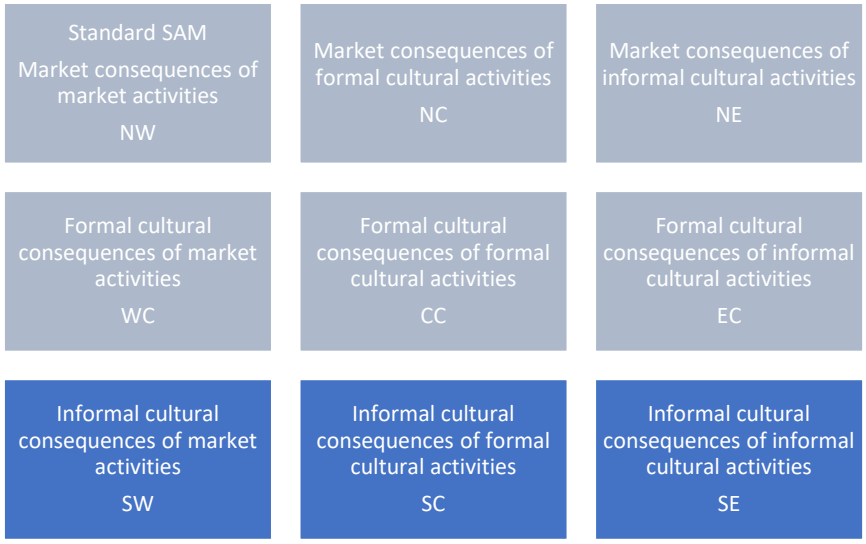


Figure 10: Informal cultural consequences of market and formal cultural activities

A second important distinction between formal and informal consequences is that instrumental consequences of arts and culture activities are informal consequences because the activities are not directly compensated for their contribution. In many cases these consequences are considered externalities—sometimes positive and sometimes negative. These costs and benefits can sometimes be measured in monetary terms but more often cannot.

Finally, it must be stressed that these informal sub-accounts may never be completely populated with precise estimates. Each row in the sub-accounts requires unique and often elusive indicators, specific to sectors, demographic characteristics, and places. The choice of ideal indicators will be contentious, data will be difficult and perhaps expensive to find, and valuing these indicators may be all but impossible. However, the simple process of describing the system and searching for indicators can increase our sensitivity to the importance of non-monetary costs and benefits, and lead to better policies and decision-making.

6. The dynamics of the arts and culture sector

6.1. Introduction

The cultural wealth accounting system described above is a static picture of the components of wealth and the relationships among the stocks and flows that determine cultural wealth. This accounting framework provides a basis for conducting comparative statics and ex poste assessment of change. More importantly, the extended social accounting matrix (SAM) also provides the foundation for a dynamic conceptual model of wealth, which we will now address.

Box 12: What is system dynamics

System dynamics (SD) is a research method used to understand the nonlinear behavior of complex systems over time. SD describes systems as interrelated stocks and flows. SD models use numerical mathematics to solve dynamic systems and simulate continuous time processes.

For more information see:

Sterman, System dynamics modeling: Tools for learning in a complex world

Wikipedia, System dynamics

We begin this conceptualization of the dynamics of arts and culture by reviewing a series of models, each of which captures some aspect of the dynamics of cultural capital and its relationships with other parts of society. Based on this broad review of conceptual models, we construct a conceptual system dynamics model that describes the spatial dynamics of cultural production and consumption, and the relationship between culture and regional economic dynamism. The resulting model is illustrated using a modular causal loop diagram (CLD). The model (see Figure 11) connects six modules, each of which is a sub-system that incorporates the most relevant conceptual and empirical knowledge. The system is highly interactive with numerous feedback loops.

6.2. The production of arts and cultural goods and services

At the center of the *Dynamic Cultural Wealth Framework* model in Figure 11 is the *Cultural Production Module*. This module draws primarily from two conceptual frameworks—the *How Art Works* system map described by the National Endowment for the arts (NEA, 2012) and the *Social Network Market Model* (Potts et al., 2008). The structure of the *Cultural Production Module* is shown in Figure 12.

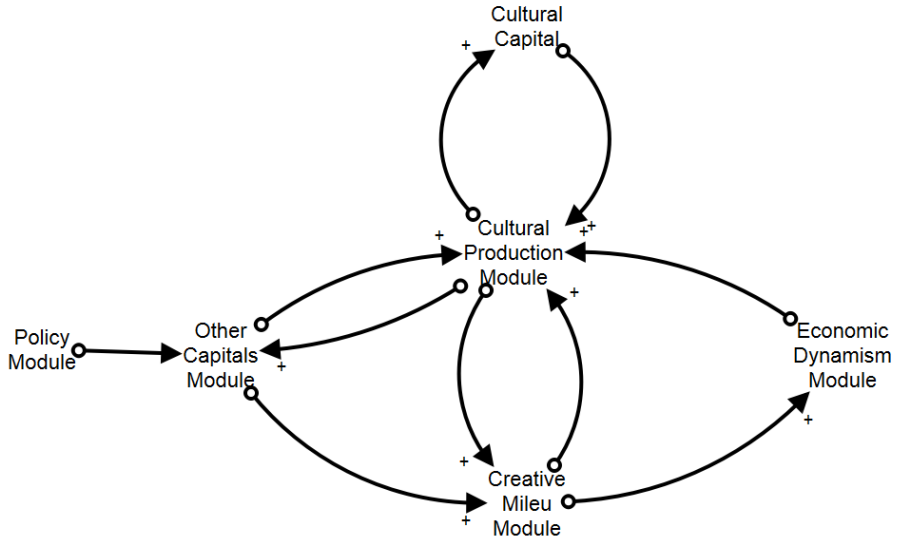


Figure 11: Dynamic Cultural Wealth Framework

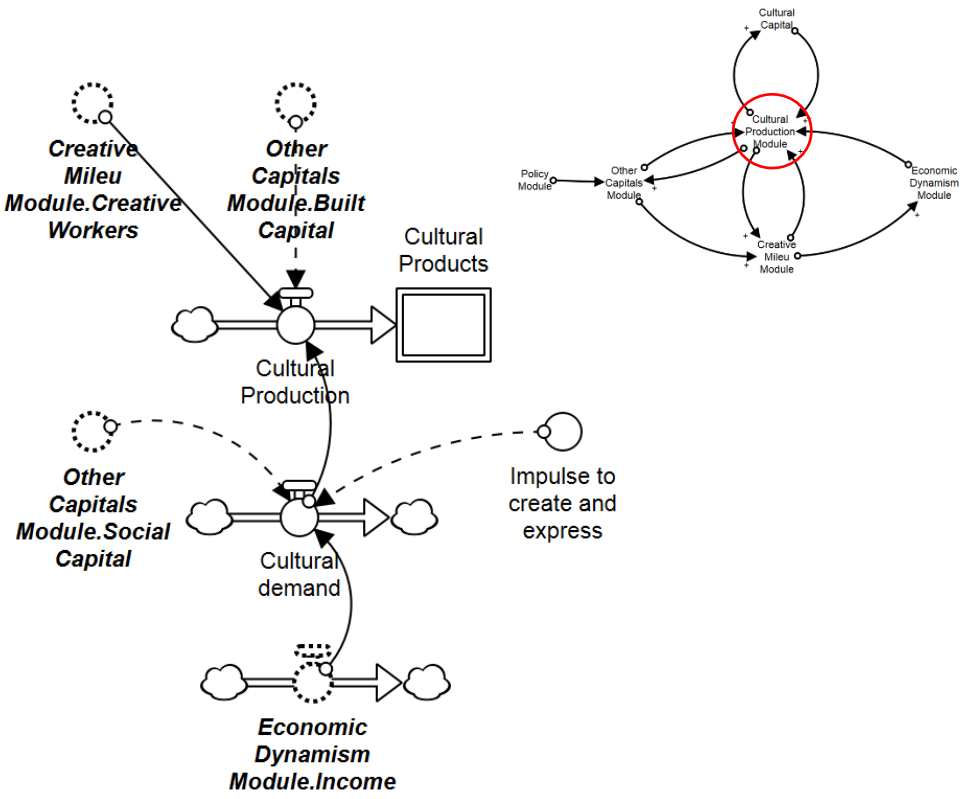


Figure 12: Cultural production module

The *How Art Works Model* describes arts creation and arts participation as parts of the same process. The model attributes the impetus for art to the "human impulse to create and express" (NEA, 2012, p. 11). In this *How Art Works Model*, the outcome of arts production is art, but more generally, cultural products. To fulfill their creative impulses, people also require infrastructure (physical capital) and appropriate education and training (human capital) indicated by the link to the *Other Capitals Module* in Figure 12.

Arts infrastructure is a rather vague concept, but here it is assumed to include certain physical capital, aspects of social networks, arts organizations, and governance institutions. Arts and culture infrastructure comprises combinations of physical, social, natural, and political capital as well as cultural capital. Cultural education and training involve human and intellectual capital.

In the *How Art Works Model*, the creation of and participation in the arts and cultural activities generate direct benefits both to the individuals involved (constitutive benefits as well as employment and income) and to society in general, including demand for the products of other sectors and for labor. In addition to these direct or first-order benefits, society is hypothesized to benefit indirectly in the form of increased ability to innovate, and through the development of new forms of self-expression and new outlets for expression. These linkages are represented by causal linkages from the stock of Cultural Products to the *Creative Milieu Module* in Figure 11.

The model then hypothesizes feedback from the indirect societal benefits to support for arts infrastructure, education, and training. A particularly important hypothesis, especially in rural areas, is that the impulse to create and express is stimulated by natural capital and social networks.

Not all the consequences of art creation and consumption are positive to all stakeholders. Because of differences in tastes and values, some art will be threatening to some people. Also, art comes with opportunity costs—more resources devoted to the arts will mean less resources devoted to non-art activities and products. In the language of system dynamics, most, but not all, the feedback loops are reinforcing to all stakeholders—there will be some distributional consequences and negative externalities.

In the *Social Network Market Model*, Potts et al. (2008) argue that the defining feature of creative industries "is that complex social networks play at least as significant a coordination role as price signals" (p. 3). They go on to say, "The CIs [creative industries], then, are properly defined in terms of a class of economic choice theory in which the predominant fact is that, because of inherent novelty and uncertainty, decisions to both produce and consume are largely determined by the choice of others in a social network" (p. 4).

Konrad (2013) studied private sector cultural-event-organizing businesses in Germany to understand the importance of effective networking to cultural business success. Konrad found that having an effective networking specialist in the business led to significantly more success. Furthermore, the role of effective networking was more important to success when the local public sector was less supportive and when there was less competition for the business. Their conclusion based on this finding was that

> cultural businesses maintain co-operative relationships for mutually beneficial reasons, rather than competitive ones, in order to strengthen and support their goals through mutual aid. This means that the classical competitive behaviour is not relevant to the cultural sector....Instead one rather finds an ideal, supportive and general community mindset among people working or engaged in the cultural sector (p. 316).

Based on Konrad's empirical findings and on the *Social Network Market Model*, social capital is hypothesized to play an important role in local production of cultural products in Figure 12.

Figure 12 describes how the efforts of creative workers and the services of physical capital are combined to produce cultural goods in response to demand. Demand is also influenced by the participants' impulses to express and create, and by the producers' social capital.

6.2.1. The arts, culture, creativity, and economic and social dynamism

The *Creative Milieu* (Wojan et al., 2007), *Creative Class* (Florida, 2002), *Creative Industries* (Cherbo et al., 2008; Davis et al., 2009; Baeker, 2017), and *Creative Economy* models (DeNatale & Wassall, 2007; Selada et al., 2012; Tomaz et al., 2011; Baeker, 2017) all hypothesize a relationship between creativity and local economic dynamism.

There are several possible explanations for the relationship between the arts and culture, and economic dynamism. Some explain dynamism at the firm (microeconomic) level, and others focus on economy-wide (macroeconomic) processes. Some explanations are descriptive, and others are more proscriptive. Only a few of these theories look specifically at the role of the arts and culture. For the moment we will refer to the process as the creative milieu. Figure 13 illustrates at a very general level the process of

economic dynamism in which the creative milieu increases the rate of economic growth, and growth increases the income of residents. We now consider in more detail the specific processes through which arts and culture lead to broad economic and social dynamism.

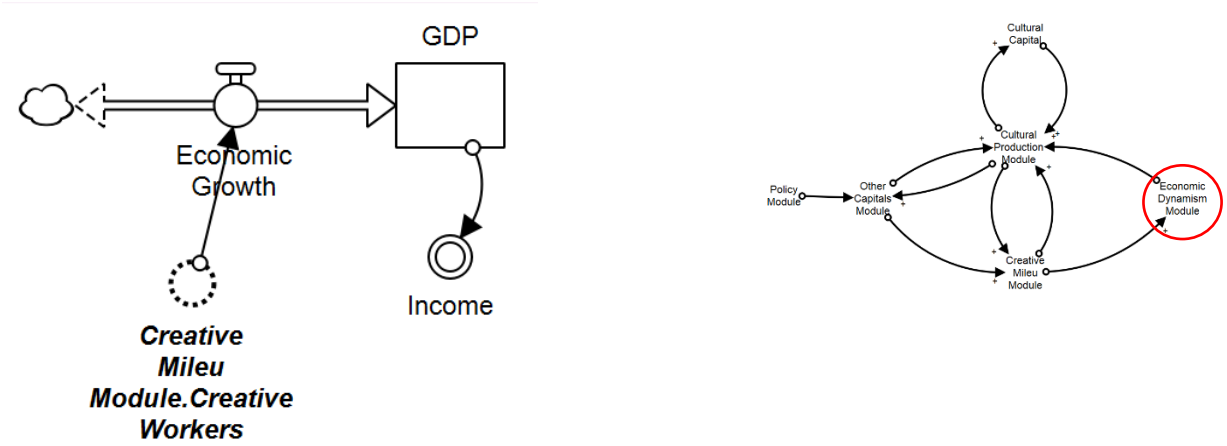


Figure 13: Economic dynamism module

6.2.2. The creative milieu and spatial clustering of creative workers

Next, we consider the *Creative Milieu Model* (Wojan et al., 2007) and the *Trifecta Model* (McGranahan et al. 2011). These models stress the importance of local amenities, which in this comprehensive wealth framework we interpret as social, natural, and physical capital. These local amenities attract or repel artists. Artists, together with consumers of the arts, determine the level of art production. But because of the attractiveness of co-locating with other artists (like agglomeration effects among businesses), the resulting creative milieu attracts additional artists, increasing the local supply of art. The creative milieu also attracts other creative workers, which in turn leads to increased local economic dynamism. This sub-system is shown in Figure 14.

There are several feedback loops between the creative milieu subsystem and the other modules. These feedbacks are generally expected to be reinforcing, leading to growth in those regions with favorable conditions and decline in those regions with unfavorable conditions. This conceptualization includes an explicit role for spatial variations in amenities (social, physical, natural, and human capital) and in concentrations of artists. Baeker's (2017) *Cultural Resources Model* extends the hypothesized relationships beyond art production and artists to include other cultural activities and producers, such as festivals, museums, and galleries.

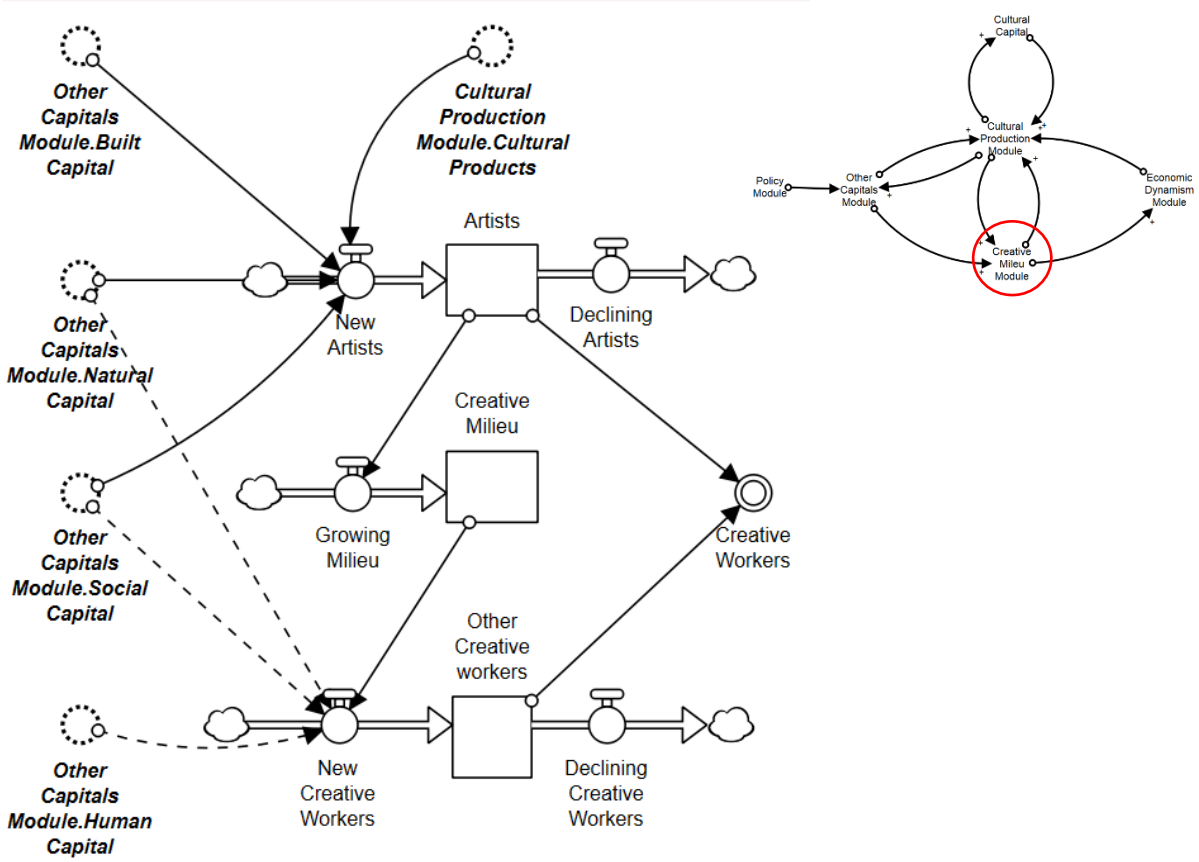


Figure 14: Creative milieu module

The *Creative Milieu Model* introduces dynamics into our view of the arts and economic development. Other models suggest that in addition to the indirect relationships between community capitals and economic development that operate through the creative milieu generated by artists, there are direct causal relationships between the natural, social, and physical capital, attracting creative workers. When taken together, these models suggest that cultural industries tend to cluster due to several synergistic processes.

The clustering hypothesis is a fundamental part of the *Creative Class Theory* (Florida, 2002) and other models. The *Creative Class Theory* predicts that creative people are attracted to locations with talent (human capital), tolerance (social capital), and technology (physical capital).[9] This hypothesis is demonstrated by the positive effect of social, human, and physical capital on creative workers, and the positive effect of creative workers on creative industries, which creates a clustering of creative industries and workers.

The *Creative Industries Model* (Selada et al., 2012) reverses the direction of causality predicted by the *Creative Class Theory*, predicting instead that creative industries attract creative workers—creative businesses co-locate, and creative people follow the jobs. The *Creative Industries Model* predicts the

[9] Technology itself is intellectual capital, but intellectual capital affects migration decisions only if embedded in local physical capital.

clustering of creative producers to exploit localization (agglomeration) economies. The *Creative Industries Model* elaborates on the traditional concept of agglomeration economies. According to Selada et al. (2012), "The effects of knowledge spillover derived from geographical proximity [to creative industries] induce the transfer of information, technologies, innovative business models and organisational forms to the overall economy" (p. 45). Throsby (2010) makes a similar observation: “The cultural industries introduce new ideas for the economy that diffuse outwards and stimulate innovation in other sectors” (p. 111).

Scott (1999, 2006, 2014) and others (Davis et al., 2009) have empirically documented the clustering behavior of creative producers and workers. It is likely that this clustering is related to both the hypothesized processes above (creative people attract employers, and good jobs attract creative people). Together, these processes generate a virtuous cycle.

The *Trifecta Model* of rural growth (McGranahan et al., 2011) and the *Local Context Model* (Balfour et al., 2016 hypothesize that natural and social capital play special roles in attracting creative workers to rural areas. Empirical work by McGranahan and Wojan (2007a, 2007b), Wojan et al. (2007a), and McGranahan et al. (2011) demonstrate empirical evidence for this hypothesis. This hypothesis is captured in Figure 14 by the effects of social capital and natural capital on creative workers.

Artists are attracted to concentrations of cultural products, and social, natural, and physical capital (Figure 14). A rising concentration of artists creates the creative milieu. Other creative workers are attracted by these same features as well as concentrations of human capital and the creative milieu. Together, rising levels of artists and other creative workers lead to a more dynamic economy.

6.2.3. Creative placemaking

The *Creative Class, Creative Industries*, and *Creative Economy Models* all describe creativity-based growth as largely autonomous processes. There are no clear opportunities to intervene with policy. Two recent frameworks clearly identify policy options. The *Creative Placemaking Model* identifies the role of strategic interventions by local agents in the development of local cultural wealth. Markusen and Gadwa (2010) describe the key features of creative placemaking as follows:

> In creative placemaking, partners from public, private, non-profit, and community sectors strategically shape the physical and social character of a neighborhood, town, city, or region around arts and cultural activities. Creative placemaking animates public and private spaces, rejuvenates structures and streetscapes, improves local business viability and public safety, and brings diverse people together to celebrate, inspire, and be inspired (p. 3).

These interventions support investments in cultural wealth by directly investing in other types of community capital, especially physical and social capital.

Another policy focused model is one by Sacco et al. (2007, cited by Tremblay & Pilati, 2013). This model is referred to as the *Proactive Cultural District Model*. It is less a conceptual model and more a list of policy best practices. Tremblay and Pilati describe the model as “a form of horizontal integration of different initiatives or systems, which can be seen as a social innovation...a model which is achieved through strategic complementarity between cultural and production systems” (p. 70). These models are the basis of the last two modules—*the Policy Module* (Figure 15), and the *Capitals Module* (Figure 16).

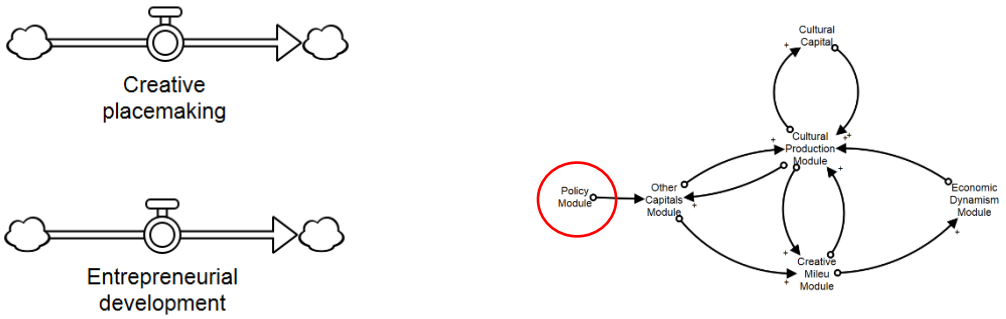


Figure 15: Policy module

The *Policy Module* simply indicates that entrepreneurial development and creative placemaking policies can be used to enhance the levels of key community capitals. They describe in detail specific strategies for being effective.

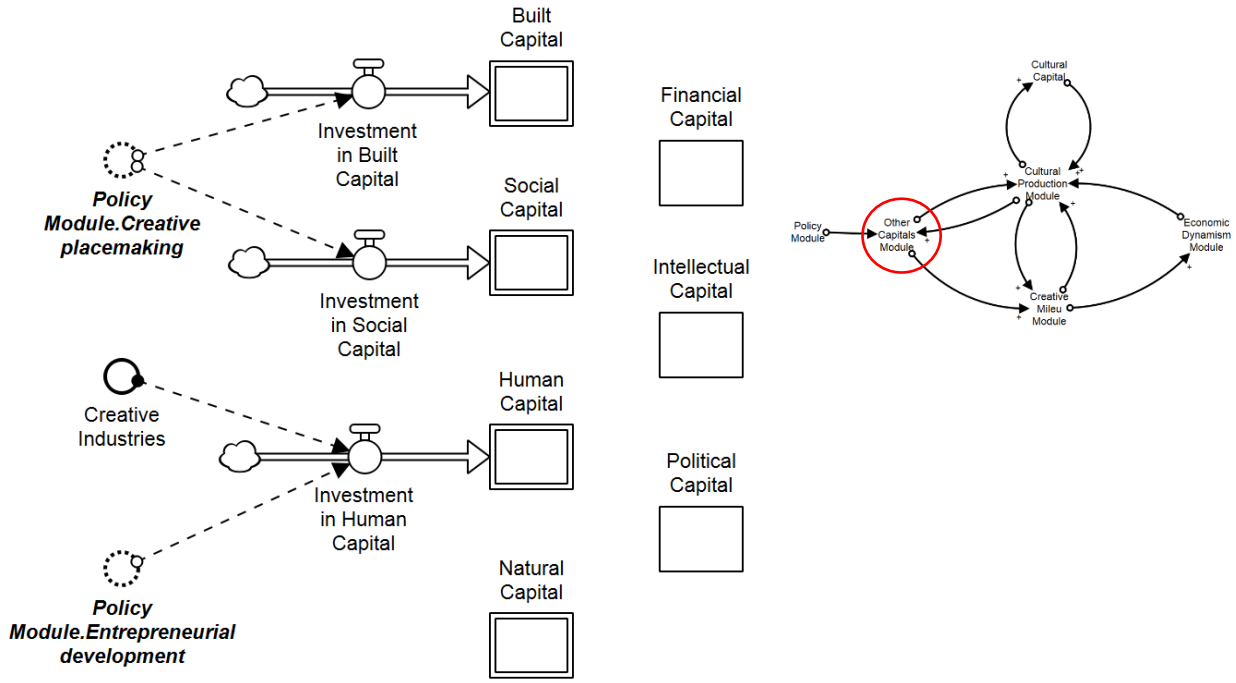


Figure 16: Other capitals module

This conceptualization of arts and culture dynamics is necessarily preliminary. Empirical research (qualitative and quantitative) will test the hypotheses in this conceptualization, which will lead to the emergence of other hypotheses. The conceptualization is also aspirational. The framework will expand and become more complex but will always be a very simple approximation of this very complex system.

7. Summary and conclusions

This paper describes a preliminary conceptual comprehensive rural wealth framework. The basic framework is not specific to rural communities or regions. What makes this framework a primarily rural framework is the emphasis placed on particular components of the system. For example, the static accounting framework, which determines the outcome and impact indicators produced by the dynamic model, stresses the importance of natural capital and heritage as an important type of cultural infrastructure in rural regions. The dynamic component of the framework also has a rural focus. The role of natural amenities in creating rural artistic and creative milieu is one example.

The biggest footprint that rural will have on this system will occur when the framework is populated with data. The choice of economic sectors, types of cultural infrastructure and products, and the array of indicators will focus on capturing the differences between rural and urban cultural industries, products, occupations, and outcomes. The data and indicators are described in detail in a companion paper (Johnson 2018).

The conceptual framework contributes directly to our understanding of rural cultural wealth. But its primary purpose is to facilitate new and different research on rural cultural wealth creation and dynamics. The framework leads to numerous hypotheses and research questions. By testing these hypotheses and answering these questions, we will make discoveries that will lead to changes in the framework, and new hypotheses and questions. A preliminary list of research questions based on the literature review (Johnson & Wornell, 2018) and the framework described in the current document are elaborated upon in another document (Rural Cultural Wealth Lab, 2018).

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