All Trade is not Created Equal:

The Dynamic Effects of the 18th Century Tobacco Trade between Glasgow and the Chesapeake

Edited Version

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Abstract

This paper explores the long-term impacts of the tobacco trade between the Chesapeake region and Glasgow during the 18th century. The trade generated unequal dynamic benefits to each partner in this trade. Tobacco production hindered the economic development of the Chesapeake region by hindering the growth of urban networks, undermining the development of local merchants and industry, and creating an uneven distribution of income and wealth. The outcome is a classic example of the Staple Theory. Conversely, the tobacco trade promoted Scottish development through a process of unbalanced growth, financed largely through tobacco profits and the positive spillover effects of the trade.

Este artículo explora los impactos a largo plazo del comercio de tabaco entre la región de Chesapeake y Glasgow durante el siglo XVIII. Este comercio generó beneficios dinámicos desiguales para ambas partes. La producción de tabaco obstaculizó el desarrollo económico de la región de Chesapeake al entorpecer el crecimiento de redes urbanas, socavar el desarrollo de los comerciantes y de la industria local, y al crear una distribución desigual de ingresos y riqueza. El resultado es un ejemplo clásico de la teoría de los *staples* o productos primarios exportables. Simultáneamente, el comercio de tabaco promovió el desarrollo Escocés a través de un proceso de crecimiento desequilibrado, proceso financiado en gran parte por las ganancias del tabaco y las externalidades positivas de este comercio.

I. Introduction

The static gains from expanding international trade are almost universally accepted by economists as a source of increased consumer well-being (Krugman 1987). The dynamic effects of expanding international trade, however, are on less secure theoretical grounds. This is particularly true when one is dealing with newly settled regions. Harold Innis was the first to extensively research the negative externalities associated with staple-led growth in newly settled regions in his works on Canadian economic history (Innis 1940, 1962 [1930]). Staples are typically commodities and as such are often subject to sudden price fluctuations, creating a boom-bust cycle. Regions and countries often go into great debt in attempts to deal with this cycle, and also to create the infrastructure to get the staple to the buyers. Often the regions are indebted to their primary buyers, who in turn could influence the region's policies. The relatively easy availability of products from other countries undermines the development of indigenous merchants and industry. Backward and forward linkages may be limited, and if they do, are often captured by the other country.[1] Staple-led development, while often based on comparative advantage, can undermine the economic development of a region or country (Drache, 1995, xxi-xxvii).

Harold Innis's Staple theory, including modifications by his followers such as Baldwin (1956) and Watkins (1963), provides a compelling explanation of the Chesapeake region's development, or lack thereof, during the 18th century. Tobacco was the most valuable export that the American colonies produced in the 18th century. The Chesapeake region had comparative advantage in the production of tobacco even though they were not allowed the benefits of free trade per se (the Navigation Acts required that the colonies could only engage in tobacco trade with England and Scotland). The region focused heavily on the production of tobacco and traded the tobacco for manufactured products, primarily from England and Scotland, which the colonies could not purchase locally or was uncompetitive locally. So far, this is a standard trade story that benefits each side: produce the product for which you have comparative advantage and trade it for what you can't produce as efficiently (or at all). However, tobacco production had features that hurt economic development. It hindered the development of towns because urban networks weren't needed for tobacco processing. That prevented a Smithian growth process to take place. It also generated an uneven distribution of income, with several poor farmers and a few wealthy plantation owners. This hindered final demand linkages, as poor farmers lacked disposable income and rich plantation owners generally bought from abroad. In addition, the particular elements of the Chesapeake tobacco trade further hindered development. The Scottish Store system, by which poor farmers received credit in exchange for their tobacco crop, created a debt-ridden underclass. The Scottish Store system also hindered the development of local manufacturing and the creation of a local merchant class. All of these conditions tend to hinder economic development, and had exactly that impact on the Chesapeake region.

Other economic historians have found evidence that the Staple Theory best explains development in the Chesapeake region. Pereira and de Frutos (1998), using data on land values, tobacco prices and British imports of tobacco, found that tobacco price fluctuations caused a boom-bust cycle in the Chesapeake region during the 1676-1713 period. They were, however, unable to test the hypothesis for earlier or later periods because of a lack of data. Still there are more descriptive historical studies that support the Staple thesis as an

[1] Backward linkages occur when the industry being studied generates a demand for inputs locally. Forward linkages occur when other industries use the output from the industry being studied as an input.

explanation for 18th century Chesapeake growth and development (Price, 1974; Earle and Hoffman, 1976; Kulikoff, 1979).

I add little new to our understanding of the development of the Chesapeake region. I include a review of the staple literature as it applies to the 18th century Chesapeake, however, as a way of contrasting the different spatial and developmental impacts of the tobacco trade upon the Chesapeake and what became the industrialized West Central belt of Scotland. Their impacts were almost mirror image. The tobacco trade had quite positive effects on Glasgow, and by extension upon the West Central belt of Scotland. The Scottish Store system served as a training ground for aspiring merchants by providing them with a place to learn the trade. The stores were run by factors, and successful factors eventually came back to Scotland to start their own business or become partners in existing businesses. In Scotland, merchants learned all aspects of running a rather complex trade. This process created human capital that could be used in other arenas.

Glasgow merchants used the profits from the tobacco trade to invest in the building of ships, contributing to the creation of a shipping services industry. The colonial demand for manufactured products and the ready access to their markets combined to create a favorable environment for the creation of several manufacturing industries, linens most important among them. Merchant capital, much of it generated through the tobacco trade, proved crucial to the early creation of these industries. Furthermore, the linen industry paid higher wages to unskilled workers, which increased domestic buying power and decreased income inequality between skilled and unskilled workers. The increased demand for food led to higher incomes for farmers and farm workers in the West Central Belt, and perhaps increased farm productivity. Merchant financial capital helped finance infrastructure improvements around the Glasgow region. It also helped develop internal capital markets within Scotland, including the founding of three banks.

Albert Hirschman's unbalanced growth theory best explains Scotland's growth and development in the 18th century (Hirschman, 1958). Hirschman argued that development efforts should be focused on one region of a country. As that region achieved self-sustaining growth through a positive feedback mechanism, its prosperity would spread geographically as it grew, and as it demanded resources and products from other regions of the country. This would eventually create a balanced growth process. The tobacco trade represented a crucial spur to that self-sustaining growth in the West Central Belt of Scotland, and in some cases beyond. To the best of my knowledge, this is the first example of Hirschman's unbalanced growth theory being used to explain economic development in a pre-industrial economy.

Taken together, the tobacco trade generated unequal benefits to Scotland and the Chesapeake, undermining the economic development of the Chesapeake region while simultaneously promoting Scottish development. To modify a line from the Declaration of Independence, all trade is not created equal in terms of its developmental impacts.

II. Glasgow and the Western Lowlands

Until the 1707 Act of Union, Scotland was officially excluded from colonial trade because of the Navigation Acts. An important element of the Act of Union required that Scotland be allowed access to colonial markets. This was a key sticking point in the negotiations, one that had hindered such a deal from occurring earlier (Devine, 2000, 13). The union also gave Scotland the protection of the English navy, thus significantly boosting the protection offered by its *three-ship* navy (Whatley, 2000, 6). As history would later point out, the union emerged as a crucial element to Scottish success in the 18th century, with Glasgow being the focal point of this success. Economic policy in the form of the Navigation Acts, combined with the developmental impact of the tobacco trade, clever entrepreneurs and a little luck, Glasgow became a poor-man's Amsterdam or London—a huge complement—and west Central Scotland benefited substantially.

Success typically doesn't come without some initial base to build upon. At the turn of the 18th century, Scotland had a growing merchant class and the beginnings of industry, primarily in coal, salt and textiles (Whatley, 2000, 22-24). The country had also become involved in the colonial trade, despite the illegality of this action under the Navigation Acts. There were at least 75 voyages between the colonies and Scotland during the 17th century (Smout, 1963, 177). Chief among the colonial trade was the tobacco trade that would become a huge source of commerce and development during the 18th century (Hamilton, 1963, 249-252). Most merchants involved in this trade used the English port of Whitehaven as an entrepot or smuggled the tobacco into Scotland (Devine, 1995, 140; Beckett, 1981, 104-105). The illegal trade continued throughout the 18th century, though its size diminished as time went on (Nash, 1982, 364).

Institutional and agricultural changes in Scotland also helped create an environment conducive to industrial and commercial growth. In 1672, the Scottish parliament withdrew a monopoly on foreign trade long held by merchants of the royal burghs (Devine, 1982, 27-28). This removed one important official barrier into the trade. Other pseudo-official barriers to the merchant professions were diminishing, too. For example, up to the late 1600s membership in the merchant guild was required to carry on trade within the burghal area, and entry into the guild favored kinsmen of established merchant families. Available evidence indicates that by the end of the 17th century, guilds were losing their power. By the 1680s the growth of trade around the Stirling area had made enforcement of the guild's trading regulations impossible. From that decade on, anyone who made a small annual payment to the guild could carry on trade within the precinct without joining the guild (Morris, 1919, 73). Similar developments occurred in Glasgow during the 1720s and in

Aberdeen in the 1730s (Devine, 1982, 29). Finally, data on the social origins of merchant apprentices during the early 1700s indicates that only 41% came from the elite, either laird (landowners) families or merchants (Devine, 1982, 30). Clearly, the merchant profession was opening up to other people.

In addition to falling barriers for merchants, the growth in farm output ensured sufficient food for the nation. Perhaps of greater importance than the absolute rate of growth was the lack of variability in the harvests beginning in the 1680s (Devine, 1982, 27). Except for the late 1690s, 1740-41 and 1782-83, Scottish agriculture produced enough annually to avoid the famines that had plagued Scotland prior to the 1680s (Flinn, 1977, 9, 185). In fact, during the first half of the 18th century, Scotland produced a surplus of grain (Smout, 1983, 47). Sufficient food production has always been a necessary condition for economic development, because it frees people to engage in growth-promoting activities such as commerce and technological improvement (Diamond, 1997, 89-90).

Scotland was blessed with natural advantages. Geography provided one such advantage. Scotland's eastern coast was closer to the Baltic and Scandinavia than any of English ports, a key advantage for bulky trade like timber. On the western coast of Scotland, the Irish Channel provided a narrow and relatively safe avenue for ships (Whatley, 1997, 50). Compared to the southern English ports, unloading in Glasgow cut two or three weeks off the time of an Atlantic crossing (Devine, 1995, 145). Thus, Scotland was ideally located in a spot where losses on the shifting axis of trade from the North Sea to Amsterdam-London could be made up with greater trade from Ireland and later North America (Cullen, 1989, 227).

Scotland is shaped somewhat like a jagged top-heavy hourglass, with the two main cities at the turn of the 18th century, Glasgow and Edinburgh, at the narrowest part of the hourglass, fifty miles apart. The country is divided into three main parts, the Southern

Uplands, or border regions; the Central Belt; and the Highlands (see map 1 below). Overland movement of human talent, financial capital and small products, therefore, was easy given that short distance (Whatley, 1997, 50). This simplified the process by which Scots, already a relatively mobile people, could move to the region that afforded them a better opportunity (Cullen, 1989, 237-238). Furthermore, the two ports' proximity allowed easier transportation of the agricultural products, coal, salt, and other raw materials located in the rich valleys between the two cities. During 18th century, the vast majority of industry and trade was located on a vertical, upward sloping thirty-mile belt, with the two cities at the center (Turnock, 1982, 86).

Map 1: Scotland (Lower portion is Southern Uplands, middle portion is Central Belt, upper portion is Northern Highlands)
[Source: WorldAtlas.com]

Despite several clear strengths at the turn of the 18th century, Scotland's structural weaknesses probably counterbalanced those strengths. Their state apparatus was weak, and the customs and excise systems were notoriously corrupt (Whatley, 2000, 1, 57). They had no navy to speak of, the three ships borrowed from England notwithstanding. This was a severe lacking in a period of 'muscular mercantilism', where national military and economic power formed a symbiotic relationship (Whatley, 2000, 38). Furthermore, despite the growing market links, Scotland also remained a largely rural country. In 1691, only 8.2% of its population living in towns with over 5,000 people and only 6.6% of its population living in towns with over 10,000 people (Whyte, 1999, 179). By comparison, 13.3% of England's population and 9.2% of France's population lived in towns with over 10,000 people (De Vries, 1984, 39). The country also lacked inland waterways appropriate for commercial transportation when compared to England and Western Europe (Smout, 1963, 12).

Scotland's trade pattern resembled that of a developing country: it exported raw and semi-finished materials and imported manufactured products (Saville, 1996, 60). Their low-end products like linen were difficult to sell outside Scotland, and their higher quality linen couldn't compete with English products (Whatley, 1994, 39; Campbell, 1980, 6-8; Gulvin, 1973, 28-29). Scotland lacked the skilled workers needed to produce finished products. They often tried to import skilled workers—with little success (Gulvin, 1973, 27-28; Saville, 1996, 63-64; Saville, 1999, 13). Of equal importance was the lack of sheer business skill required to carry out ventures (Jackson, 1995, 71; Whatley, 2000, 35). Acquiring the needed skills and connections required a long and arduous apprenticeship, limiting the growth of the merchant class in Scotland prior to the 18th century commercial boom (Devine, 1983, 171-172). Furthermore, Scottish ventures at the time were small scale, hindering any efficiency gained from resource pooling. Part of the problem was their poor port facilities, which were difficult for the large European ships to use (Whyte, 1995, 283; Whyte and Whyte, 1991, 204).

In addition to the structural weaknesses, Scotland suffered through some of the most trying economic conditions in the twenty-five years preceding the Act of Union in 1707, especially in foreign trade (Smout, 1963, 253-256, 277-278). Their most important trade at the turn of the 18th century was in cattle, raw materials and textiles (Jackson, 1995a, 74). Extreme dependence on exporting a few raw materials and semi-finished goods makes any country subject to external influences beyond their control, with Scotland being no exception (Whyte, 1995, 51). War, protectionism and strong competitors hindered Scotland's ability to trade in important foreign markets. In 1689, France, as part of their war effort with England, banned the importation of foreign salt and herrings and Scottish cloth, instantly closing off Scotland's largest buyer of these products. The war ended in 1697, but the trade restrictions remained (Smout, 1963, 249). In addition to the banned products, the war itself had a huge detrimental effect on trade, especially since Scotland used primarily Dutch ships, which had no guns (Smout, 1963, 63-69; Smout, 1964, 458).

Prior to the union, Scotland tried on its own to improve its economic condition. In 1693, the Scottish Parliament passed the "Act for Encouraging of Forraign Trade", which allowed and encouraged the creation of trading companies along the lines of the successful British East India Company (Smout, 1963, 250). Their primary attempt at a venture was to set up a trading post at Darien in the Isthmus of Central America, which gave the effort its name, the Darien venture. The company envisioned an Atlantic and Pacific entrepot. The first ship sailed in 1698, with a second ship sailing the next year. By 1700 the venture had failed miserably, destroyed by fifty miles of dense jungle, disease and a Spanish attack—they had foolishly decided to locate the company on a parcel that had been Spanish for two hundred years (Insh, 1932, 109-242). The company folded in 1705 (Smout, 1963, 252). Scots were profoundly disturbed by Darien's failure (Armitage, 1997, 59).

The Darien failure came a horrible time. Scotland had just endured a devastating widespread famine in the late 1690s. The population declined by 5-15% between 1695 and 1700 (Flinn, 1977, 181). The purchasing power of towns collapsed, barter became common, highland bands began marauding for food, and tax-collecting became extremely hazardous (Saville, 1999, 12). It's estimated that perhaps 100,000 people left Scotland during the late 1690s, with 40,000-70,000 people moving to Ireland, joining the estimate 100,000 who were already living there (Smout, Landsman, and Devine, 1994, 88; Petty, 1691, 8). Historians, unsurprisingly, call this period the "ill years" (Flinn, 1977, 164).

In summary, at the turn of the 18th century, Scotland had many of the conditions needed to grow and prosper. Geography, proximity to natural resources, established trading links, the beginnings of industry, and institutional and agricultural improvements all suggest a nation that was moving toward a positive phase of economic development. However, numerous problems existed. Overall, Scotland was a poor, rural country. They had no navy to speak of, making their foreign trade at the mercy of more powerful nations. They had little financial capital. Their governmental apparatus was inadequate. Given conditions present in 1700, it wasn't clear at the time that Scotland would prosper by the end of the 18th century: "If crisis is an overused term then the notion of a severe check to Scottish development in the later seventeenth and early eighteenth centuries is not overly dramatic" (Whately, 2000, 39).

The Scottish Ascension

The story begins with the Union with England in 1707. At this point Scotland gained the benefit of the English navy and equal treatment under English law, and suffered the consequence of English taxation, though payments were made to help offset this (Devine, 2000, 12-13). Most important, Scotland was no longer subject to trade restrictions such as the Navigation Acts. This set the stage for Glasgow's—and Scotland's—emergence. Tobacco and its associated trades—primarily providing manufactured goods to the colonies—would become a major spur to economic development.

Despite the union, the country experienced slow economic growth during the generation following the Union (Whatley, 2000, 56-57; Whyte, 1995, 299). However, Glasgow experienced strong growth generated primarily by the tobacco and sugar trades (Whatley, 2000, 54). This was due in part to the Union creating fertile conditions for growth. Additionally, Glasgow had lower wages and provisioning costs, and an exceptional ability to avoid English regulations (Whatley, 2000, 54). All of these factors gave Glasgow a significant cost advantage as a port. Scotland's tobacco imports increased from an average of 1.5 million pounds during 1698-1707 to an average of 5.6 million pounds during 1722-1731, with most of it coming through Glasgow (Nash, 1982, 363). Glasgow, by 1714-1717, had pushed ahead of all English ports except London in tobacco imports (Price, 1973, 604).

Despite this impressive tobacco trade growth from the Union until the 1720s, it wasn't until the 1740s that Glasgow's tobacco trade started rapidly expanding. The late 1720s and 1730s had brought a resurgence of the Whitehaven tobacco market and continued growth from the leading tobacco importer of the period, London. From an average of 1.2 million pounds in 1722-1726, Whitehaven's tobacco imports rose to 4.6 million pounds in 1739-1741 to 10 million pounds in 1747-1750. London's imports grew from 18.6 million pounds in 1722-26 to 29.3 million pounds in 1739-1741. Unsurprisingly, the tobacco market stagnated in Glasgow, with total volume remaining between 3.5 million pounds and 4.5 million pounds during the late 1720s and 1730s (Price, 1973, 596).

The 1740s, 1750s and 1760s, however, brought spectacular growth in the tobacco trade for Glasgow. From an average of 5.1 million pounds in 1739-1741, Glasgow's trade grew to 15.2 million pounds in 1748-1750 to 45.3 million pounds in 1771-1773 (Price, 1973, 596). By 1769, Scotland (primarily Glasgow, Port Glasgow, and Greenock) had captured more of the tobacco market than all of England, owning 52% of the British tobacco trade (Devine, 1984, ix). Overall, Scotland's share of British trade rose from 10% of the British total in 1738 to an astonishing 40% by 1765.

In part, the story told here has to do with the natural growth of tobacco's popularity and the benefits of the British navy protecting them and the Navigation Acts ensuring a customer base. This, however, doesn't explain Glasgow's relative growth (Devine, 1995, 143). To some extent, its geography played a role. This advantage, however, should not be over-emphasized. Glasgow's deep inland location near a jagged shoreline created a hazard for large ships, as did its shallow river. The Clyde near the Glasgow bridge was only 15" deep, which completely precluded many ships from usage there. It wasn't until 1768 that an engineer named John Golborne was able to design a way to increase the depth of the water to 6-9 feet (Whyte and Whyte, 1991, 204).

Emigration is also part of the story, because it created important connections for the Atlantic trade. Of those migrants, an estimated 75,000 Scots emigrated to America in the first eighty years of the 18th century (Horn, 1998, 31).

While natural growth, the benefits of membership in the British club, geography and mobility were clearly part of the story, the dominance of the Glasgow merchants lays elsewhere, in the firm design and practices and the structure of the market. Specifically, the French tobacco monopoly combined with the Scottish partnership law and the Scottish store system were the main components of their success (Devine, 1995, 146-149, 154-156). The Scottish store system operated in the following manner: the store factor gave small tobacco farmers much needed credit during the year in exchange for their tobacco at harvest time. With this credit the farmers could buy the products that they needed in order to plant and cultivate their crop until harvest time. This was in contrast to consignment, the other major way of selling tobacco, in which an agent signs for the tobacco and tries to sell it on the open market, primarily London. Consignment was effective in the late 17th and early 18th centuries when much of the tobacco was coming from large farmers or plantation owners who could afford to wait for the agent to sell their tobacco. But as the number of small farmers rapidly expanded along the Chesapeake, and a growing percentage of tobacco was therefore being grown by small farmers, the need for credit and supplies grew. From the 1730s on, Scottish stores expanded rapidly in response to these changes, and were purchasing increasing amounts of tobacco from the Chesapeake (Devine, 1995, 146-148; Price, 1973, 596).

Glasgow merchants' expanded purchases proved a costly endeavor. A firm had to pay for shipping, insurance, port fees, the cost of advancing credit to the farmers and running the stores. A typical ship could only make one trip in a year, meaning funds were tied up for an extended period of time (Devine, 1995, 150-151). Furthermore, European companies typically wanted long term credit (Devine, 1995, 149). Merchants would not have been able to carry out this venture without sources of capital. In some cases, family wealth could provide the necessary funds, however recent research suggests that such funding was insufficient for the needs of the trade (Devine, 1995, 154). Before the 1750s, the most important source of capital was internal financing by the firm, encouraged by Scottish partnership law (Devine, 1974, 121).

Scottish partnership law, based on Roman civil law, differed from English common law. Partnerships were separate legal entities, much like corporations (Campbell, 1967, 139, 143). This allowed tobacco companies to draw up regulations that were legally binding (Devine, 1974, 121). Partners could sue if any party broke the contract. One of the most important of these regulations, seen in almost all partnership deeds, was the requirement that only 5% interest, the legal limit, be paid on the capital credited to the partners, with the remainder of the profits retained by the partnerships. This meant a huge growth in the capital stock for successful firms (Devine, 1995, 154-155).

The major source of short-term capital prior to the 1750s was internal financing. From the 1750s on short-term capital came from the French tobacco monopoly. Established in 1674, the French tobacco monopoly grew to become the largest single purchaser of British tobacco by 1744 (Price, 1964, 501-502). By 1757-1762, thirty-five per cent of all Scottish tobacco exports were destined for France. Prior to the 1750s the Glasgow trade wasn't developed enough to sell on a large basis to the French (Devine, 1995, 149-150). These purchases were made with cash or short-term, easily discountable bills of exchange. This large flow of liquid capital allowed the larger tobacco merchants, or "tobacco lords" as they were called, to offer expanding credit to small farmers on the Chesapeake.

The tobacco merchants used their growing financial capital to purchase their own ships. Ninety per cent of all tobacco ships were 'company ships', owned by the merchant partnership, up from 60% in the late 1740s and less than half prior to the 1740s (Devine, 1995, 151). The focus on the tobacco trade allowed ship captains to find the fastest routes and eventually reduce port time (Dell, 1982). This speed, combined with improvements in the organization of the tobacco market in the colonies, drove business costs further down. Glasgow tobacco prices were almost always lower than London's. They could sell tobacco for a lower price and have similar profit margins because they had lower costs—a point that regularly annoyed London agents because it cut into their profits. Furthermore, their greater volume increased total profits (Devine, 1995, 150).

The Scottish store system's second component, selling wares to farmers for their tobacco, proved more profitable to the merchants than the tobacco purchase (Devine, 1995, 167). This made their high volume, low price strategy even more effective, because it increased sales of the manufactured goods that they sold (Devine, 1995, 150). The store system, to be effective, required that factors and by extension merchants in Glasgow have a good knowledge of the colonial customers (Devine, 1995, 167). Until the middle of the 18th century, Glaswegian merchants had to establish ties with merchants from Europe to get the products they needed (Devine, 1995, 141). Eventually, merchants vertically integrated their businesses, founding or investing in manufactories of their own. (Devine, 1976, 11-12). Moreover, these manufactories were concentrated in the Glasgow region, creating an important regional growth center**:**

Table 2

Gross Total of Industrial Units with some element of Glasgow Colonial Merchant Capital in Stock, c1700-1815

Manufacture	Total Number	No. outside Glasgow	No. outside West-Central Scotland
Textiles (silk, linen, wool)			
Textiles (cotton-spinning)	23	2	--
Textiles (finishing processes)	12	10	1
Iron (malleable)	9	4	1
Iron (pig)	4	--	--
Mining (coal)	3	3	--
Mining (other minerals)	14	8	1
Sugarhouses	2	--	2
Rope and sailcloth	7	2	--
Leather	3	2	--
Glassworks	4	--	--
Breweries	3	2	--
Soapworks	2	2	--
Tobacco-spinners	2	--	--
Potteries and delftworks	1	--	--
	1	--	--
	90	35	5

Source: Devine, 1976, table 1

Some businesses listed above are clearly linked to colonial trade, like rope/sailcloth manufactories and tobacco-spinners. Also, from legal and business records, we know that a sizable portion of these partnerships were founded to service the colonial trade. The entire leather and shoe industry was dominated by colonial merchants (Whatley, 2000, 66). The Carron Company, Scotland's first large manufacturing firm (it produced iron products), depended heavily on colonial market access granted by the Glasgow merchants. (Campbell, 1961, 105-106). Coal mining was largely financed by merchant capital, and foreign demand provided incremental growth in this industry. Colonial merchants also dominated the entire sugar and glass industries (Devine, 1995, 168).

The most powerful example of this process comes from the linen industry, Scotland's largest industry in the 18th century. The country's stamped linen output roughly doubled every twenty-five years from 1728-32, when it was 3.5 million yards, to 7.8 million yards in 1748-1752, to 1798-1802, when they produced 23.8 million yards (Durie, 1979a, 22). This industry depended largely on foreign demand for its growth. From the early 1750s to the early 1790s, 15%-22% of linen output was exported through Scottish ports (Durie, 1979a, 145). This underestimates the foreign market's importance, however, because it excludes exports to England that were re-exported or consumed within England. A. J. Durie has calculated the proportion of exports to England that were eventually re-exported. If these numbers are included, then total exports rise to 18.2%-38.3%:

Table 3

Percentage of Scottish Linen Output Exported, 1748-1792

Years	% Exported from Britain
1748-1752	18.2
1753-1757	19.2
1758-1762	26.8
1763-1767	24.4
1768-1772	29.6
1773-1777	30.7
1778-1782	25.7
1782-1787	31.1
1788-1791	38.3

Source: Durie, 1979a, Table 8.3

The scale of operations for anything related to tobacco grew rapidly during the 18th century. These manufactories dwarfed the scale of production in other parts of Scotland, indicating the value of the tobacco trade and store system to capital accumulation.

Table 4

Insurance Valuations for Scottish Business, 1790-1800

Business	Location	No. in Sample	Total Insurance (L)	Average (L)
Foreign Traders	Scotland	57	218,295.00	3,830.00
	Glasgow	7	79,100.00	11,300.00
Domestic System Merchants	Scotland	51	94,800.00	1,859.00
	Glasgow	11	136,600.00	12,418.00
Weaving Partnerships	Scotland	6	5,200.00	866.67
	Glasgow	49	85,592.00	1,747.00
Family Weavers	Scotland	15	7,050.00	470
	Glasgow	86	1,572,766.00	18,288.00
Chemical Manufacturers	Scotland	55	88,500.00	1,609.00
	Glasgow	9	13,800.00	1,533.00
Wrights and Builders	Scotland	16	13,450.00	840.63
	Glasgow	31	21,658.00	698.65
Printers	Scotland	8	32,700.00	4,088.00
	Glasgow	3	3,050.00	1,017.00

Source: Lythe and Butt, 1975, Table 19

The growth of Lowland's industry also had important impacts upon skill creation. Historians have explored the importance of foreign trade to the development of human capital in commercial matters (Price, 1989; Devine, 1995, 163). Becoming a colonial merchant required a substantial period of education and training. This included rudimentary instruction in reading, writing and classical languages. Some merchants' sons went to Grammar School, which included the above education plus geography and Classical antiquities. The majority then went on to the University of Glasgow for further education (and may have been educated by Adam Smith, had they attended between 1751 and 1763). If they were lucky enough to be wealthy, the prospective merchant would tour Europe to become worldly. Finally, a stay in the colonies was mandatory, typically for one or two years as a factor in a firm's store, a storekeeper or as a merchant's apprentice (Devine, 1995, 160-163). The tobacco trade required a great deal of skill to succeed. Moreover, the development of this managerial skill came at a time when it, according to anecdotal evidence, was in short supply (Whatley, 2000, 86).

More systematic quantitative analysis extends illustrates that the trade helped spur the creation of a skilled middle class. Marriage registers indicated that in 1756-1759, 78% of Glasgow's population worked in manufacturing, 8.5% in trade, and 2.8% in the professions, defined as law, medicine, the clergy, education, administration and military service, for a total of 89.3% in all three categories (calculated from Whyte, 1999, table four). In 1801, Glasgow's proportion in each of the three categories had fallen to 78.2%, with 70.7% in manufacturing, 7.0% merchants and 4.2% in the professions (calculated from Whyte, 1999, table four). In each case, there was a much greater proportion of the population in the skilled professions, indicating either that the region was drawing more skilled people to it, developing more skilled workers, or (most likely) both.

A more detailed examination of occupations over a similar period (1756-59 to 1790-94) provides further evidence that Glasgow was a becoming a more skilled, more economically integrated city with a more diverse manufacturing base, all signs of economic development. For example, the proportion of people in textiles fell from 35.7% to 26.4% while greater numbers were entering the building and wood-based trades: from 2.8% to

4.2% in construction and from 5% to 9.6% in carpentry. The proportion of people in the professions rose from 2.2% to 4.7%. Finally, those in transport and communication rose from 2.1% to 4.6% (Whyte, 1999, table four).

In addition to more skilled workers, Glasgow's rapid development attracted huge numbers of people overall. Glasgow is located near the center of the western lowlands in the county of Lanark. Ayr and Renfrew counties make up the rest of the western lowlands (Flinn,1977, xxii). It's here, as shown in table 5, that Scotland experienced its most substantial population growth during the 18th century:

Table 5

Scottish Population, 1691-1801

Region	1691	1755	1801	% increase or decrease 1691-1755	1755-1801
Borders	150,140	149,079	184,949	-0.7	24.1
Eastern Lowlands	448,542	458,425	557,041	2.2	21.5
Western Lowlands	161,406	181,237	331,110	12.3	82.7
North East	227,788	214,001	220,712	-6.5	3.1
Highlands and Islands	245,699	262,638	314,608	6.9	19.8
Scotland	1,234,575	1,265,380	1,608,420	2.5	27.1

Source: Tyson, 1999, table 2

Glasgow represented the epicenter of this growth explosion. In 1691, its population stood at 17,100. By 1755, it had risen to 31,840 and by 1801 to 84,102—this last figure represents one-quarter of the Western Lowlands' population in 1801, and the change represents one-third of the growth in the Western Lowlands between 1755 and 1801 (Whyte, 1995, 24). The city's growth was likely attracting people. Moreover, it was also attracting (and creating) wealthy people. In 1760, more than 60% of those within the counties of Renfrew, Lanark, and Ayr who had recorded wealth at death lived outside Glasgow. By 1800, this was shifting and by 1830, the Glasgow wealthy overshadowed all other regional groupings (Nenadic, 1995, 283).

The dynamism centered in Glasgow effectively spread to other nearby regions. The rapidly growing urban areas needed labor. As a result, wages, which had been stagnant for decades, began rising steadily from the 1760s to the 1790s (Gibson and Smout, 1995, 276, 279; Treble, 1988, 224). Wages within fifty miles of Glasgow were 30-50% greater than the mean for the country (Morgan, 1971). This wage increase spread throughout West Central Scotland. It is hypothesized that as workers left the more semi-rural and rural areas, labor supply decreased. In addition, food prices rose rapidly from the 1740s to the 1790s (Gibson and Smout, 1995, 179-182; Devine, 1988, 32). Both likely contributed to rising wages in the rural areas, although given the latter 18th century population growth and rapid urbanization, it was probably the increased demand for farm produce that spurred the wage growth. During this period, regions like Ayr, Renfrew and Clydesdale began focusing on dairy and fruit farming in order to service the Glasgow region (Whatley, 2000, 71). The western Lowlands overall were among the few regions that experienced significant agrarian improvement during the thirty years concluding in 1775, as evidenced by the area around Glasgow being among the few regions that had fewer than 0.2 agricultural workers per tradesman in c1790 (Smout, 1983, 57; Turnock, 1982, 75). This was stimulated by the growing demand for food in the area and the subsequent growth in food prices (Devine, 1994, 37, 46). The western Lowland region experienced the greatest wage growth (Gibson and Smout, 1995, 276).

Of equal importance to the growth in wages was the decrease in the wage differential between skilled and unskilled labor. In underdeveloped economies, there is typically a significant wage difference between skilled and unskilled labor (Gibson and Smout, 1995, 276). Skilled labor in Scotland during the 150 years up to 1760 had typically received wages that that were double that of unskilled workers. Wages of both groups rose during the period from 1760-1790, but by the 1790s the skill premium had shrunk to 60% (Gibson and Smout, 1995, 276).

The final demand linkages generated by the growing wages proved a crucial element to self-sustaining growth. Scotland lacked sufficient domestic demand prior to the 1750s to provide the needed spur to promote growth and development (Whatley, 2000, 75-79). Wages of most laborers were insufficient to purchase the products produced. In the first half of the 18th century, the wages needed to buy 30 ounces of oatmeal a day required by a typical adult male consumed about half the total expenditure of a laborer (Gibson and Smout, 1995, 231-232; 343-356).

By the 1790s, finally, working class families could afford more of the basic necessities, and these are reflected in output totals. Take, for example, the linen industry. Scotland primarily produced lower quality coarse linens, the kind that would primarily be consumed by the working class. From Durie's work we know that about 48% of Scotland's linen output was exported to England or elsewhere in 1748-1752, rising to about 68% in 1788-91 (Durie, 1979a, 145-149). Stamped linen output rose from 7.8 million yards in 1748-52 to 19.7 million yards in 1788-92 (Lythe and Butt, 1975, 248). This means that the Scottish home market consumed an average of 3.7 million yards in 1748-52, rising to 13.4 million yards in 1788-92, an almost four-fold increase in demand at a time when population overall grew only about 27% (Tyson, 1995, table 2).

A growing middle class is one telltale sign of economic development. The middle class in Glasgow grew from a small proportion of the population in 1700 to perhaps 15% in 1800 (Nenadic, 1995, 279).

Unbalanced Growth and the Western Lowlands

Gunnar Myrdal and Albert Hirschman, writing in the 1950s, described a development theory that greatly illuminates the development process in the Western Lowlands during the second half of the 18th century. Myrdal defined circular and cumulative causation as a positive feedback mechanism that would cause a polarization in the wealth, income and development levels of two regions within a country: “In the normal case a change does not call forth countervailing changes but, instead, supporting changes, which move the system in the same direction as the first change but much further. Because of such circular causation a social process tends to become cumulative and often gathers speed at an accelerating rate” (Myrdal, 1957, 13). The process leaves one region wealthy and another impoverished. Myrdal called this polarization between two regions the “backwash effects” of the circular and cumulative causation:

> “It is easy to see how expansion in one locality has ‘backwash effects’ in other localities. More specifically the movements of labor, capital, goods and services do not by themselves counteract the natural tendency to regional inequality. By themselves, migration, capital movements and trade are rather the media through which the cumulative process evolves—upward in the lucky regions and downward in the unlucky ones” (Myrdal, 1957, 27).

The most productive people tend to migrate toward the growing region, as does financial capital. Any industries in the backward region(s) tend to be depressed, because they have lost their best people and sources of financial capital. In addition, they may suffer from competition with thriving industries in the growing region.

Mitigating the impact of the backwash effects are what Myrdal refers to as the “spread effects.” Any region that experiences strong economic growth will tend to expand, or “spread” out, which encourages growth in surrounding regions: “It is natural that the whole region around a nodal center of expansion should gain from the increasing outlets of agricultural products and be stimulated to technical advance all along the line” (Myrdal, 1957, 31). Furthermore, the growth need not be limited to nearby regions:

> "There is also another line of centrifugal spread effects to localities farther away, where favorable conditions exist for producing raw materials for the growing industries in the centers; if a sufficient number of workers become employed in these other localities, even consumers' goods industries will be given a spur there. These, and also all other localities where new starts are being made and happen to succeed, become in their turn, if the expansionary momentum is strong enough to overcome the backwash effects from older centers, new centers of self-sustained economic expansion" (Myrdal, 1957, 31).

Myrdal doubted, however, that spread effects will completely offset backwash effects:

> "In no circumstances, however, do the spread effects establish the assumptions for an equilibrium analysis. In the marginal case the two kinds of effects will balance each other and a region will be 'stagnating.' But this balance is not a stable equilibrium, for any change in the forces will start a cumulative movement upward or downward" (Myrdal, 1957, 32).

Albert Hirschman reached many of the same conclusions as Gunnar Myrdal (Hirschman, 1958, ch.10). Hirschman, though, had different names for the effects. Rather than backwash effects and spread effects, he called them polarization effects and trickling-down effects (Hirschman, 1958, 187-190). Moreover, Hirschman considered this process helpful to the development of the nation. As the growing region thrived, it would expand geographically and increase demand for products from the outlying regions. Hirschman called these "backward linkages". Also, the presence of local suppliers of a product may stimulate the creation of industries that require this product as an input. He called these "forward linkages" (Hirschman, 1958, ch. 6). Also crucial to the process was an adequate infrastructure, or "Social Overhead Capital" (Hirschman, 1958, 83). Assuming sufficient Social Overhead Capital, the linkage effects would spur economic growth and development of the surrounding regions, leading ultimately to balanced self-sustaining growth throughout the country. If one or more regions didn't develop, then the country could use the wealth from the thriving region to aid the development of the backward regions. He called this the unbalanced growth strategy (Hirschman, 1958, ch. 4).[2]

The economic development process in the Western Lowlands resembles a successful application of Hirschman's unbalanced growth strategy. The region experienced an initial growth spur in the form of the tobacco trade, secured by the Union, good policy and Scottish ingenuity. The trade, raw materials for finished products, grew rapidly, attracting investment as it grew and creating its own wealth that is reinvested. It also attracted people, especially skilled people, and generated conditions by which more skilled people were trained. The people were drained away from less developed and wealthy regions, and prosperity caused birth rates to rise and contribute to the population growth. In this case, however, rather than causing misery in the backward regions from which labor left, the growth of Glasgow primarily caused improving conditions. Increased demand for food, combined with less labor in the outer regions, bid up the prices and wages paid to rural workers. There was some Social Overhead Capital present in the Glasgow region however those involved with the tobacco industry provided significant Social Overhead Capital by improving both the financial and physical infrastructure of the region, in the form of three banks, overall improvements in financial sophistication and improvements in the port.

There is, however, some limited evidence of that suggests the negative impact of backwash effects.[3] The Northeast of Scotland experienced virtually no population change between 1755 and 1801, which, given the overall population growth in Scotland indicates that they probably experienced an out-migration (Tyson, 1995, table two). Since late 18th century Scotland had largely reversed its net out-migration of 1600-1775, one can cautiously conclude that most of these migrants were moving to the growing Lowlands

[2] W. Brian Arthur later formalized this process in a model (Arthur 1994).

region (Smout, et. al., 1995, 98-104). Furthermore, some ports saw their tobacco trade decline (Whatley, 2000, 66). Trade from ports other than on the Clyde grew slowly between 1750 and 1775, suggesting Glasgow was capturing the bulk of overseas trade (Whatley, 2000, 73).

The backwash effects were largely trumped by the spread effects of Glasgow's rise. One may consider the geographic growth of the city of Glasgow itself represented a substantial spread effect. More broadly, one can see this impact in the concentration of industry in Scotland's west Central belt, meaning the area encompassing the three main counties of Ayr, Renfrew and the county containing Glasgow, Lanark. The Central belt, overall, eventually became Scotland's main industrial concentration, a thirty-mile wide, eighty-mile long, upward tilting parallelogram illustrated in figure one below. Of all the industry in Scotland, wool, cotton, coal mining, iron, and textile finishing were focused in and around the Glasgow region. Linen and flax production dominated the eastern central belt above the Forth river, and most of these production areas were located near the coast or a river. Glasgow had some paper production, but this industry was largely dominated by Edinburgh, as was glass, chemicals and salt. Both regions developed shipbuilding industries.

[3] The paper will use Myrdal's terminology of backwash and spread effects, as these seem to be better known and better describe the outcomes.

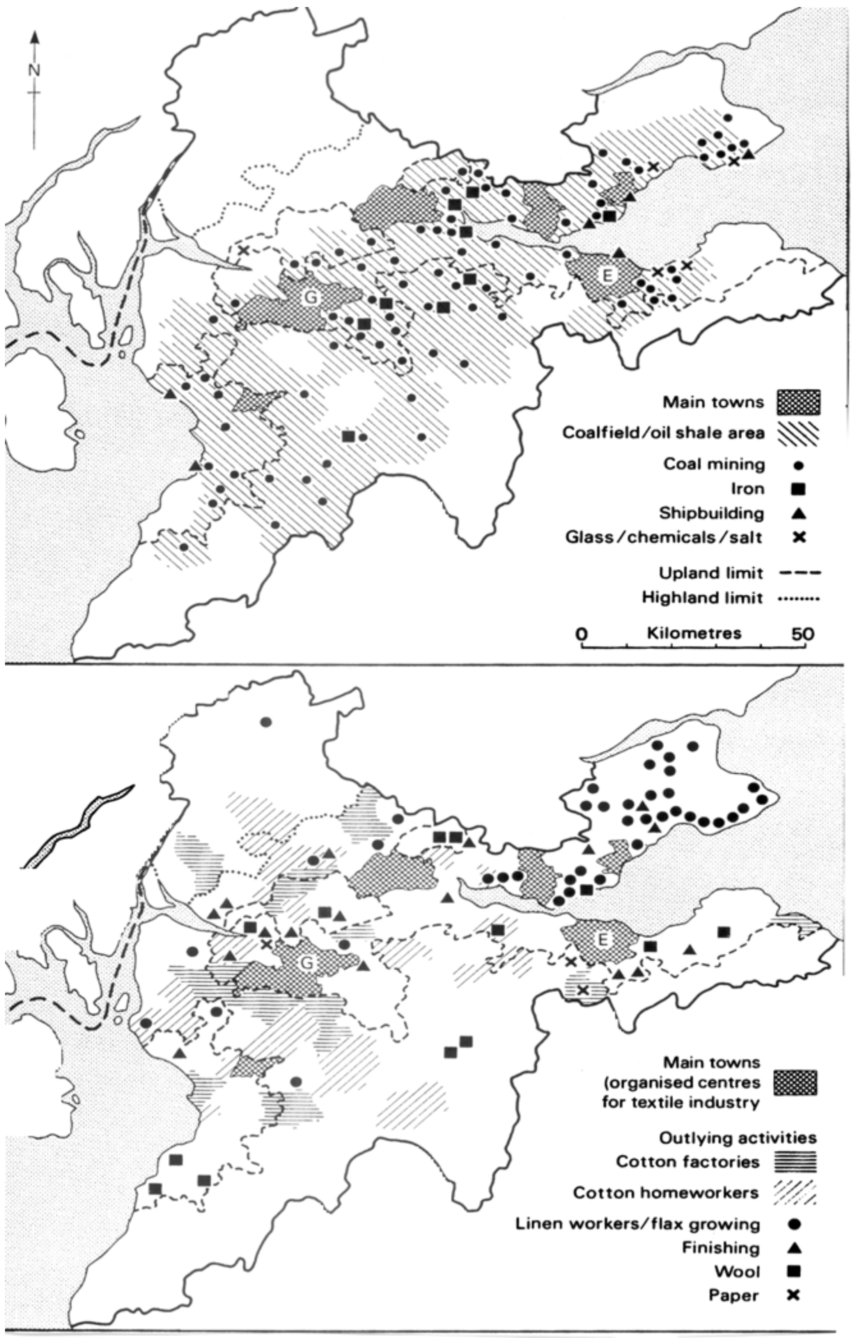

Figure 1: Scotland in 1790

Source: Turnock, 1982, 86

The growth of planned towns also indicate spread effects. Villages were typically built to reorganize agriculture, the development of domestic textile industry, developments in transportation like harbors and canals, and the reorganization of markets and fairs (Lockhart, 1983, 132). Of the 219 new villages created between 1725 and 1799, roughly one-third or 71 were in the Scotland's central belt (Lockhart, 1983, 133). Since the region makes up roughly one-sixth of Scotland, village building was disproportionately focused on this region during the seventy-five year period. Furthermore, west Central Scotland had 46 of those villages, or 21% of the total. The West Central Belt represents roughly seven percent of Scotland, so 21% is also a disproportionately large part of overall village creation. Village growth often went hand-in-hand with regional specialization that was taking place. Counties around Lanark such as Renfrew and Ayr reorganized and focused on dairy, fruit farming and coal to serve the needs of a growing Glasgow (Whatley, 2000, 71; Lockhart, 1983, 132; Turnock, 1982, 83).

Also key to the development of the region was the *type* of industries they were investing in. Merchants invested in complex, high productivity industries like textiles to sell to their colonial customers. The accumulating industry spurred wage increases and encouraged workers to leave lower productivity industries and either move to the Glasgow region or work locally in those higher productivity industries: "The initial phase of growth…redistribute(d) labour (perhaps especially female labour) away from agriculture, where it had very low marginal productivity, towards the linen industry on the one hand and to town services of all kinds on the other" (Smout, 1983, 71). Smout's view is shared among other Scottish economic historians (Saville, 1999, 17; Devine, 1983b, 19).

Merchants were also a dynamic growth force in public works, creating much needed Social Overhead Capital. They were key in many of the developmental projects of the day, like the financing the improvement of the Clyde into a first-class canal, and the building of the Forth and Clyde canal and the Monkland Canal (Devine, 1995, 168).

The tobacco market fell off precipitously during the Revolutionary War, causing a deep recession in Scotland. The tobacco trade never again achieved its size and scope, though the Glasgow's connections with the colonies still allowed them to largely control the trade, even though most of the tobacco no longer went to Glasgow but instead went directly to Europe (Devine, 1995, 176). This point, however, provides evidence of the self-sustaining nature of the unbalanced growth process. Glasgow's financial capital, and much of human and physical capital, was not industry-specific, so it could be redeployed for other uses. As war destroyed the tobacco trade Glasgow's merchants and industrialists rapidly turned their sights to West India, Ireland, European commerce in general and the East India trade during the 1780s (Devine, 1983b, 20; Whatley, 2000, 113).

III. Tobacco and the Chesapeake

The Chesapeake region represented much of the source of Scottish tobacco. There is some dispute among historians as to what to include under the "Chesapeake region", however all historians included the portions of Maryland and Virginia east of the Fall Line (the Tidewater region in Virginia) plus the eastern shore of Maryland.[4] On map two below, this would include the entire area west of the Chesapeake Bay except the northwest corner of the map, plus the eastern shore, to the point roughly thirty miles inland.

[4] Private correspondence with Edward Papenfuse (1/30/05), Jean Russo (1/31/05) and Lois Carr Green via Jean Russo (2/7/05) generated different definitions however all three include the areas described above.

Map 2: The Chesapeake Region in 1747
(Courtesy of Maryland State Archives)

The Chesapeake region was clearly growing during the 1700s. Though regional statistics aren't available, Maryland and Virginia's combined population rose from 153,890 in 1720 to 649,615 in 1770 to 783,478 in 1780 (Statistical History of the United States, 1976, Series Z 1-19). These two colonies had over 30% of the colonial population at the time and had the most valuable export, tobacco (Price, 1974, 163). Despite this rapid population growth, per capita income kept pace. Per capita regional product increased from $935 in 1720 to $1,238 in 1774 (Menard, 1996, table 6.2). Wealth increased substantially, in particular, during the third quarter of the 18th century (Kulikoff, 1979). As a result, the region possessed the largest per capita wealth in the North American colonies in 1774 (Jones, 1980, table 3.9). By these statistics it was a prosperous region.

This perception, while superficially accurate, hides important developmental shortcomings. By the 1770s, the Chesapeake had no urban networks of consequence (Earle and Hoffman, 1976, 7-8). Despite their greater wealth, income per capita was identical to New England and less than the middle colonies (Jones, 1980, table 3.10). Moreover, the Chesapeake's wealth and income distributions were uneven (Earle and Hoffman, 1976, 25). Out of 1,105,477 potential wealth-holders in the South in 1774, almost a euphemism for white males, 153,325 or 13.8% owned wealth. In New England and the Middle Colonies, however, 281,510 out of 1,248,490 or 22.5% owned wealth (Calculated from Jones, 1980, table 2.2). Roughly 25% of Maryland's wealth-holders' wealth was in slaves, while the number was roughly 33% for Virginia (Calculated from Jones, 1980, table b.3). There were few craftsmen or merchants, and a significant portion of the merchants were from British firms (Earle and Hoffman, 1976, 22-25; Price, 1974, 165). The Chesapeake had little local industry (Earle and Hoffman, 1976, 22-25; Earle, 1975, 62-100). In many ways the region was like many modern oil producing nations: wealthy but not developed or developing.

This paradox of wealth among under-development represented one of colonial history's most interesting and puzzling questions. Much of the work, however, has been done to explain this under-development. The staple theory, first put forward by Harold Innis in his work on Canadian economic history, best explains this outcome (Innis, 1962 [1930], 1940). Innis painted a negative picture of the Staple-led growth of new economies, arguing that it undermines economic development. The very nature of the product contributes to these effects. For example, Innis found that many staples, usually extractive in nature, have limited backward or forward linkages, which limits any developmental multiplier effects from the staple. The staple is often a commodity, and as such is often subject to dramatic price swings from year to year, causing great instability in a region so heavily dependent upon one export. The heavy reliance on the staple export also makes the region sensitive to changes in commercial policies of their largest customers. The local Social Overhead Capital needed to get the staple to the market or shipping point is often financed by heavy borrowing from abroad, leading to indebtedness. In short, there can be many negative developmental externalities associated with staple production (Drache, 1995, xxi-xxx).

Earle and Hoffman (1976) apply the staple theory to the Chesapeake region to explain its under-development. Tobacco was the Chesapeake's staple. It was a low value-added good that, unlike grains, required no special treatment or processing locally, nor was it bulky or heavy enough to require specialized storage facilities (Earle and Hoffman, 1976, 62-63). Hence, no geographically concentrated industries evolved around tobacco's shipment, no linkage effects were generated, and it consequently generated no urbanization or urban networks (Earle and Hoffman, 1976, 7-8). Urbanization is a necessary (if not sufficient) part of the process by which backwash effects and spread effects occur, and has been a precondition of economic development in most countries.

The use of slaves also contributed to the lack of development of the region. Throughout the 18th century planters increasingly used slave labor for tobacco cultivation. The black population of Maryland and Virginia grew from 30,600 in 1720 to 303,600 in 1780 (McCusker and Menard, 1985, table 6.4). More slaves explains the paucity of skilled labor in the region, as slave owners often had their slaves do other work while not cultivating tobacco (Anderson and Gallman, 1977, 24-27). Tobacco plantations, while not as large as the rice or sugar plantations (McCusker and Menard, 1985, 137), accentuated this problem. Plantations producing staples generate regional specialization and firm diversification, exactly the opposite pattern that would promote economic development (Anderson and Gallman, 1977, 29). Plantations also tend to reinforce the focus on the staple because that is all they are designed to produce. Firm specialization and regional diversification generates a Smithian process growth process that encourages diversification in the local economy, with workers and firms becoming more skilled and increasing their productivity as they continue to focus on one job.

Plantations retarded economic development in another way. They tend to generate hostility among the elite toward entrepreneurship and experimentation in general. Institutions seek to maintain the status quo (Baldwin, 1956, 170; Watkins, 1963, 147). In Virginia's case, this is in part an inherited cultural pattern from England—Virginia had a substantial percentage of elite landowners who tried to manufacture the same social structure in Virginia (Fischer, 1989, 246). The Tidewater planters in particular sought to create an aristocratic culture (Breen, 1985, 32-39).

Tobacco cultivation eventually caused an uneven wealth distribution to develop. Four trends contributed to this process. First, farm building created opportunities for capital accumulation. Second, the rise of a native-born population allowed for inherited wealth to become a major source of power. Third, many small farmers lacked the resources to take advantage of the rising price of tobacco during the 1750-1775 period. Finally, slavery allowed some planters to produce more at a lower cost (Menard, 1996, 270). Slave or plantation owners made 30-40% more on their tobacco via slave labor while producing more. Furthermore, by employing slaves in other activities when tobacco wasn't being cultivated, they could add to this income (Earle and Hoffman, 1976, 36-39). Data from the time period confirm this impression. Gini wealth coefficients for the Chesapeake increased from 0.536 in 1733 to 0.591 in 1776 (Kulikoff, 1979, 287). Ten percent of the wealthiest Tidewater families controlled close to 70% of the wealth of the region by the Revolutionary War (Menard, 1996, 270). Overall in the South, the poorest 30% of families in the South owned only 1.6% of the wealth, the lowest of any region (Jones, 1980, 174). This type of inequality means a smaller middle class evolved to stimulate home demand for manufactured goods—limiting final demand linkages that were (and are) critical to the development process (Watkins, 1963, 146; Baldwin, 1956, 168-170). The small tobacco farmers earned just enough to stay alive and go a little deeper in debt while large planters and plantation owners grew wealthier, often using that wealth to buy luxury goods from Europe (Earle and Hoffman, 1976, 24-25).

The Glasgow store system also contributed to the Chesapeake's stunted development. The stores offered credit to farmers in return for their tobacco crop at harvest time. The store system helped ensure that they would buy products only from Glasgow merchants. The farmers used that credit to purchase a wide variety of needed goods which they couldn't produce, typically manufactured products (Reber, 1991, appendix 1). This system eventually dominated the tobacco trade in a large portion of the Chesapeake because it offered poor farmers what they desperately lacked: credit (Price, 1980, 5-19). Unfortunately, it also created a vicious cycle of poverty, as farmers constantly in debt to tobacco factors, further accentuating the inequality in the region. Total debt owed by the former colonies to Glasgow residents equaled £2.2 million in 1790, with £1.8 million owed by Virginia and Maryland (Price, 1980, table 1).

The success of the Scottish store system proved a debilitating force to colonial merchants and artisans. Until the 1740s, local merchants controlled much of the tobacco trade. They bought it on consignment for sale in England (Egnal and Ernst, 1972, 24-28). The eventual dominance of the Scottish factors undermined their trade and ensured the developmental linkage effects, and any profits from this source that might lead to capital accumulation, remained in Glasgow.[5] Finally, British manufactured goods, produced with greater productivity and with lower wages, undercut colonial artisans and mechanics (Sawers, 1992, 276-277). This hindered the development of local skilled workers. Unsurprisingly, colonial merchants, artisans and planters in the Chesapeake hated Scottish factors (Sawers, 1992, 274, 277).

British policy also played a role in the underdevelopment of the region. Under the Navigation Acts, tobacco had to be sent to England first (England or Scotland after 1707) before re-exportation. This lowered the price of tobacco by eliminating potential buyers, thus hurting income for the poor farmers in the region. Scholars disagree about how much higher tobacco income would have been without the Navigation Acts, but the range is from 16% to 34% during the decade 1763-1772 (Thomas, 1965, 624; Sawers, 1992, 269). Given the poverty and debt of poor tobacco farmers, this might have made a significant difference in terms of final demand linkages. It also explains the frequent efforts by Maryland and Virginia state governments to acquire control over the marketing and distribution of tobacco by passing general town acts—Virginia passed six town acts between 1655-1705 and Maryland passed ten between 1668-1708. It was hoped that by consolidating population in

[5] One could argue that capital was relatively free to flow where it wanted. However, there is a significant home bias toward saving behavior that still exists today (Rodrik, 2000, 178).

one geographic space a central transshipment and marketing apparatus would arise, allowing planters to charge a higher price for their tobacco (Earle and Hoffman, 1976, 14).

Of perhaps greater importance than the lowered price was that the regulatory regime ensured that Britain captured the financial, marketing and shipping linkages, thus providing an important spur to the development of these services—as the above section on Glasgow illustrated. Once this process began, it became self-reinforcing, preventing the region from capturing the benefits of the linkage effects. Controlling the latter stages of bringing the product to market creates an important barrier to entry, and the tobacco results prove this (Porter, 1990, 36). Virginia merchants, to get involved in the tobacco trade, had to go to Great Britain or have an agent there (Price, 1974, 167-168). That's where the trade was managed.

IV. Conclusion

In many ways, the developmental impacts of the tobacco trade upon the Chesapeake and West Central belt of Scotland represent a mirror image. The spark from the tobacco trade generated a regional growth process emanating from Glasgow, a pre-industrial example of Hirschman's unbalanced growth process. It generated a great deal of financial, human, Social Overhead and physical capital, much of which could be put to other uses once the tobacco trade slowed. It generated a wealthy upper class of merchants, but it also created a demand for both skilled and unskilled labor, and wage growth for both but particularly for unskilled labor. The effects of this process were felt throughout the West Central belt of Scotland.

Conversely, the population dispersal caused by the tobacco staple and the other aforementioned factors undermined the growth of physical, human and Social Overhead Capital in the Chesapeake, and consequently the development of the region. Only those

Chesapeake areas that got away from tobacco, like Baltimore and Norfolk, were able to develop significant urban populations that served as a precondition for economic development (Price, 1974, 169-171).

There is a delicious irony (or horrific irony, depending upon your view) present in this case study. The Chesapeake followed its comparative advantage and produced tobacco. This statically rational choice had negative repercussions in the long-term.

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