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MUNICIPAL CONSOLIDATION: THEORETICAL INQUIRY AND CASE STUDY
-CITY OF IRON RIVER, MI

By

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ABSTRACT

MUNICIPAL CONSOLIDATION: THEORETICAL INQUIRY AND QUASI-EXPERIMENTAL CASE STUDY

By

Joseph M. Martin

The City of Iron River was created as a consolidated municipality in the upper peninsula of Michigan during the late 1990's. The consolidation consisted of two cities and one village with a combined 2000 census population of 3,391. Persistent population loss, combined with the decline of the economic base, reduced the viability of the individual municipal governments, placing consolidation at the forefront of options. The analysis of small, rural municipalities is outside the focus of most consolidation studies, however, the theoretical considerations examined in this study apply to all consolidation questions. These questions revolve around theories of local government organization and size; addressing key points including, economies of scale, size, and scope, transition and social interaction costs, local government competition, and spillovers. The case study presented in this paper uses a two-pronged approach; the first examines the cost structure of three governments in a pre and post consolidation setting; and the second uses a quasi-experimental technique to ensure that cost savings were related to consolidation and not other exogenous factors. Recognizing that concerns extend beyond expenditures, anecdotal evidence was gathered from city officials and stakeholders in relation to service level and quality in the consolidated Iron River.

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INTRODUCTION

The local political unit is often celebrated for being the government closest to the people. Operating in this capacity, it is said, they are better able to elicit citizen involvement and actively respond to stated community needs and demands. One community with an abundance of children promotes education and playgrounds, while another with an aging population demands senior centers and medical facilities. Yet, local governments are more than simple service providers, they are a set of boundaries that organize and direct human interaction. Political boundaries determine who can participate in decision making and how resources are allocated. The boundaries in this simple example above permitted two distinct service packages, but what if the local government housed both the old and young? Would the preferences of the old for senior centers, frustrate the young's preferences for schools? Or, through compromise would less than the preferred amount be supplied to each?

Political boundaries are not only important in the allocation of municipal services, but in determination of service cost. Numerous arrangements exist for the size and organization for local government, each with an implication relative to provision costs. To explore these theories, and their affect on government operation, this paper examines the affects of the only successful consolidation effort in Michigan to date. The three governments involved in the municipal consolidation were the City of Iron River, the City of Stambaugh, and the Village of Mineral Hills, all located in Iron County, Michigan. Most consolidation studies on municipal governments are set in large metropolitan areas, whereas the rural setting of these municipal governments provides a

unique opportunity to examine the potential cost savings from the consolidation of small units of municipal government.

The only other complete merging of general-purpose government in Michigan is the unification of Battle Creek City and Township. The undertaking was motivated by the cereal manufacturer Kellogg's insistence to have all business enterprises in one community, reducing administrative expenses and having a standard service level and tax rate. Unlike the Iron River consolidation, the merging was not citizen initiated, but was spurred by the threat of losing Kellogg's corporate headquarters, and was pursued through annexation authority granted to cities in Michigan. This leaves the City of Iron River Michigan's first and only consolidated city.

Research Organization

The research undertaken in this paper is organized into five chapters. Chapter One provides an introduction to the theoretical foundations that guide choices in government size and organization. Chapter Two expands on these concepts by providing an organized theoretical inquiry, and although not all concepts discussed in the theoretical portion are relevant to the Iron River case study, the complexity of consolidation merits a thorough discussion. Chapter Three details the history and motivation behind the Iron River consolidation. The primary focus of Chapter Four is to examine the cost structure of the three governments in a pre and post consolidation time period. Consideration is given to service levels and qualities to more accurately make deductions regarding efficiency. To assure the financial impacts were attributable to the consolidation, a quasi-experimental case study is employed in Chapter Five. The Chapter describes the quasi-

experimental case study process, as well as providing the results and interpretation.

Concluding observations on the Iron River consolidation and its applicability to other areas of research is provided at the end of the paper.

CHAPTER ONE- OVERVIEW OF LOCAL GOVERNMENT SIZE AND ORGANIZATION

The first serious recognition of America's urban problem took hold in the early progressive reform traditions of Woodrow Wilson in his attempt to stamp out the corrupt regimes of urban bosses by bringing in the science of administration (Lowery 1999). The progressive movement alleged that professional and neutral urban administrators could effectively run urban government through the formal process of a centralized hierarchy (Lowery 1999 and Ostrom 1999). This continued belief in administration, coupled with the confusing nature of overlapping local jurisdictional boundaries, the high cost of service duplication, and vast inequities in service levels across local government boundaries led the Committee for Economic Development, a group of prominent businessmen and educators, to call for an 80% reduction in local government in 1966 (Zimmerman 1970).

However, with few exceptions, voters rejected the consolidation promises of economical provision of public services and the correction of service inadequacies in favor of arguments of lower tax rates and a government closer to the people (Zimmerman 1970). In fact, the number of municipalities in the United States increased from 16,807 to 19,429 between 1952 and 2002 (U.S. Bureau of Census 2000). Not unexpectedly, the rejection of the progressive movement coincided with the loss of confidence in the public sector beginning with the privatization movement in the late 1970's and 1980s. Overwhelmingly, public service standards of accountability, representativeness,

neutrality, equity and integrity were replaced with market forces of competitiveness, efficiency, productivity, and profitability (Haque 1996).

Although, the progressive reform tradition failed to materialize in consolidations of large urban governments, arguments for consolidation spread to rural America in the form of school district consolidations. Unlike municipal consolidation, state policies generally sought to encourage school district consolidation in response to falling populations and declining economies. Starting in 1932, the number of school districts fell from over 128,000 to 13,506 in 2002.

Already small in population, many rural municipalities continue to get smaller with the decline of primary employment sectors, agricultural and manufacturing. Rising service costs in these small municipalities reflects the erosion of the tax base, deteriorating infrastructure, and population loss. Recent consolidation proposals in such rural areas are less about correcting service inequities, than the need to pool resources and remove service duplication to lower service cost. On the assumption larger jurisdictions can deliver services more efficiently, proposals will continue to promote consolidation or amalgamation of small rural communities.

Although, a large portion of the theoretical work done on local government size and organization is set in urban areas, there is nothing to preclude the applicability to smaller rural areas, such as those discussed in the Iron River case study. The magnitude of consolidation affects may vary, greatly in many instances, between large urban areas and small rural communities. However, the underlying economic theory will still form the choice among competing hypotheses, and guide the selection of variables to test.

1.1 Establishment of Existing Political Boundaries

Most modern political boundaries reflect historical public land surveys developed to identify parcels for the establishment of title and deeds to rural settlers. The Northwest Land Ordinance of 1785 established one such survey method called the United States Public Land Survey system. This rectangular grid survey system created six-squared mile townships as the foundation of local government in the Eastern and Midwest portions of the United States. The resulting survey for Michigan created over 1,200 township governments. Municipal governments (cities and villages), created through acts of legislation, provided an additional set of political boundaries in Michigan for areas where population concentrated. Generally, municipal governments deliver a broader and more intensive set of services to their downtown constituents, than their township counterparts. At the risk of over simplification, sewer and water services are typically provided to city residents; whereas townships residents must self furnish this service through septic systems.

Although useful for settlement purposes, historically determined political boundaries make little economic and geographic sense today. If redrawn, these boundaries would bear little resemblance to the existing map (Oates 1999). This proposition leads to two questions: how would the optimal size of local government be determined, and what tools are available to achieve the desired size?

1.2 Optimal Size of Local Government

The 'optimal' size for a political unit is a function of both supply and demand factors (Schmid; Dowding, John, and Biggs 1994; and Fox and Gurley 2005). For

example, the economies of scale that exist in the supply of certain government services allow a community to lower per unit cost of services as fixed investments are dispersed over a larger population. Under the supply principle, the ‘optimal’ size for a political unit is one in which governmental services reap scale economies. Unfortunately, no single boundary size can accommodate potential scale economies across the multitude of services local governments provide. The least cost size for providing fire services may differ from the size needed to provide sewer and water.

From the demand perspective, citizens’ tastes for local government services will vary, yet, for many publicly provided services if they exist for one, they exist for all. No individual citizen can adjust downward the amount and quality of a particular service in their community.¹ However, smaller governments can achieve more homogenous preferences for local public services over their larger counterparts by allowing residents to locate in areas where citizens share a common set of experiences and value for public services (Schmid). Accurately determining citizen demand is thus simplified by smaller unit size.

Supply and demand conditions appear to conflict with each other in the delivery of municipal services. Larger populations are needed to achieve the least cost supply of public services in a community but may result in frustrated demand fulfillment due to varied citizen preference. However, the opportunity for supply and demand factors to converge may occur when production of local government services is separated from provision. One local government could *provide* the desired amount of a particular service by contracting with a neighboring community or private company, while *self-producing*

¹ For example, once the quantity and quality of law enforcement is chosen by a community, no single person can decrease the coverage of the public service. They can, however, increase the service level quantity or quality by purchasing extra door locks or a home security system in the private market.

another service. Provided a producer exists and is able to expand production through workable contracts, by separating provision from production small homogenous governments can match citizen demand at lower per unit costs reflecting economies of scale.

Separating production from provision in the above described quasi-market type setting defines one way to determine an optimal size local government. Nevertheless this method has two shortcomings. First, some goods display characteristics of high exclusionary cost, and cannot be differentiated by local political boundaries. For example, the noise from racecars (or the benefit of its reductions) found at many local racetracks and speedways in Michigan does not stop at the city or township border. The second interdependency occurs when public service choice in one political entity has an affect on another community because of the mobility of populations and exclusionary costs. Citizens may migrate to a community with greater benefits, at the expense of more generous taxpaying residents.

1.3 Achieving Optimal Local Government Size

The existing political boundaries of general-purpose local governments can be adjusted through two methods, annexation and consolidation.² The case study presented in this paper will be concerned with the later. Both annexation and consolidation expand the full array of rights and obligations to the new jurisdiction formed from the boundary realignment. Although the permissiveness and process of annexation and consolidation statutes will vary by state, the process is sufficiently comparable; permitting Michigan to

² Existing boundaries can also be altered when a municipal government disincorporates and dissolves into the default government, generally a county or township.

serve as an example. In Michigan, annexation occurs when a city is allowed to take possession of, or incorporate portions of contiguous township land and its residents. These residents become citizens of the new city, and vote and pay taxes in their new jurisdiction. Over time annexation powers granted to cities in Michigan have weakened. If so choosing, townships can obtain charter provisions, which among other things, requires a vote of township residents affected by the city annexation procedure. The trend appears to be one found throughout the old industrial Northeast, where townships have gained power at the expense of the central city (Rusk 2003).

Alternatively, consolidation can occur between any type of general-purpose local government in Michigan (city, township and village). The consolidation forms a new political unit by merging the fragmented boundaries of formerly independent units of government. The new political unit reestablishes its charter and political representation, and determines new tax rates and service levels.

City-county consolidation, an occurrence in the southern United States, has garnered the most political and economic attention in the consolidation arena. This type of consolidation merges single county governments with numerous municipal governments located within the county boundary. Township government does not exist in these city-county consolidations; therefore all unincorporated territory (i.e. non city) is part of the county. In this situation, Rusk (2003) finds that Southern and Western cities have significantly greater authority in annexation of territory over their Eastern and Mid-western counterparts

Political boundaries can also be created or altered using single-purpose local governments, such as police, fire, and sewer/water authorities or districts. Single-

purpose authorities and special service districts can cut across political boundaries, with no necessity to map directly to general government boundaries.

CHAPTER TWO- THEORIES OF LOCAL GOVERNMENT SIZE AND ORGANIZATION

2.1 The Conflict of Supply and Demand

The size of governmental service provision units is a function of contradictory supply and demand forces. For the supply of some services, increased size has its advantages. Per capita production costs are reduced as the service is spread across greater populations. The magnitude of these savings varies by service type, and thus one political boundary cannot capture the entirety of size benefits. Conversely, demand for governmental services differs across populations. As heterogeneity of a jurisdiction increases, the ability to match service demands to its population decreases. This entails a tradeoff between size and homogeneity.

Alesina and Spolaore (2003) consider how individuals would organize themselves in a political jurisdiction provided an unavoidable tradeoff between size savings and heterogeneity costs. Presupposing that there are no limitations in structuring the provision unit, and no spillover effects, small jurisdictions would supply services with low economies of scale and high heterogeneity costs. Conversely, larger jurisdiction would form to supply services that could meet demands of a large population with varied preferences. For example, sewer and water would best be provided to jurisdictions with greater populations, while police services are provided by smaller jurisdictions. Sewer and water provisions benefit from economies of scale and preferences vary minimally among citizens. Preferences for police services on the other hand have a high degree of variability.

However, Alesina and Spolaore (2003) contend that this would lead to a complex maze of overlapping jurisdictions that are suboptimal in the presence of transaction costs and economies of scope. Transaction costs arise if the provision of services to individuals in overlapping boundaries requires some form of coordination between jurisdictions. Economies of scope imply that the total production cost of two services is lower if the same jurisdiction provides them. For example, administrative duties can be spread across a multitude of services, such as, police, fire, and public works. The savings from economies of scope, however, must be large enough to offset the governments' ability to satisfy a heterogeneous population (Alesina and Spolaore 2003).

The proceeding theoretical inquiry will be built around the size-heterogeneity tradeoff as it relates to consolidation choices of general-purpose governments. Supply side cost savings will be examined in terms of economies of scale, size, and scope. Unit cost versus variety tradeoff, as well as social interaction costs, will be used to identify and explore the concern of increased heterogeneity through consolidation. As means of partially converging supply and demand forces, market-type competition between government service providers is explored. Finally, property rights will be explored in the context of spillovers across political units and their impact on the distribution of economic resources.

2.2 SUPPLY SIDE THEORY

2.2.1 Economies of Scale

Economies of scale are often used to justify government consolidation because of potential cost savings accruing to the larger government. Used in this general manner,

the definition of economies of scale denotes that government services could be produced at lower per unit costs as the output increases through the additional population of a consolidated unit. Schmid (1987) notes several sources of economies of scale, however only indivisibilities in production are of primary relevance to issues of consolidation.³ Irrespective of the number of units produced, most governmental services require the presence of fixed investments. Average unit costs may fall as the fixed investment is spread over more residents. For example, the prerequisite to producing fire service in a community is the purchase of a new fire truck. Once purchased, the truck is in a sense indivisible, because its capacity, size, and quality cannot increase or decrease. But if excess capacity exists, the average unit cost of output from the fire truck could decrease as greater population is served.

However, if the contribution of capital equipment to the consolidated government is unequally weighted, a pricing issue exists. Who pays the fixed costs; and who pays the marginal costs? A 'buy-in' of the capital equipment by the lower weighted community eliminates free riding on fixed investments paid by the higher weighted community. Marginal pricing, in contrast, does not.

Oakerson (1992) cautions that because of low population density rural communities encounter distinctive problems in providing certain services. On one hand, low population density decreases demand for some services, while on the other; it increases the cost of producing the service. For example, fire services in a low population density area encounter a relatively low demand but often face relatively high

³ One of the alternate sources of increasing returns noted by Schmid is from certain properties of physics. For example, the volume of water running through a pipeline increases with its square, while its costs function remains linear. The other source, learning through repetition and experience, may also lower the unit or average cost of a good.

per capita cost. High per capita costs are a function of the large fixed investment and the relatively high cost per fire run (rural fire departments are often required to cover greater geographical territory than their urban counterparts). Plus, significant portions of idle time occur between runs, thus excess capacity usually exists.

However, enlarging the physical boundaries of a jurisdiction may or may not lower the per capita costs of fire service. This depends on whether or not cost savings from spreading fixed costs over greater populations exceeds cost increases of extending fire services over greater geographical distances. “The consolidation of jurisdictions cannot create population scale –a function of density– where it is absent“ (Oakerson 1992). This concept is explored in greater detail below.

2.2.2 Economies of Size

Fox and Gurley (2005) argue that economies of scale is the wrong economic tool to evaluate cost savings from consolidation. They note that in determining economies of scale, the relationship between a proportionate increase in all input factors and their affect on output must be examined, while holding all other factors constant. If a proportionate increase in inputs is met by a more than proportionate increase in output, economies of scale are exhibited. The authors argue that consolidation does not hold all other factors constant, or allow for scaling of all input factors; on the other hand economies of size measurements do. Thus, the measure of consolidation cost savings is whether lower unit costs are achieved in context of all other changes that are likely to occur.

For example, land area, geography, and population density are all variables that affect the cost of fire service delivery. Consolidation is not likely to scale these factors

proportionately, nor are service conditions likely to remain unchanged in the new territory. Lower per unit costs may occur as fixed investments are spread out across additional users, but these savings must be weighed against the potential for additional costs associated with a larger coverage area, or a less dense population. Fox and Gurley (2005) conclude that lower costs from size economies are location specific. For certain services and in certain places lower costs will occur from a merger, while in other places the service may yield higher costs.

2.2.3 Economies of Scope

Economies of scope are a potential form of cost savings from consolidation of local governments. Economies of scope exist within a single organization when the organization can attribute fixed inputs, such as computer facilities or central administration staff, across the multitude of services provided (Dollery and Case 2004). Alternatively, economies of scope may arise when one governmental service becomes a partial byproduct of another (Fox and Gurley 2005). For example, personnel from the fire department commonly serve as building inspectors in many small communities throughout Michigan.

2.3 Capturing Local Government Service Economies

Hirsh (1968) classifies governmental services by their potential to realize economies of scale as they are integrated into a growing or *consolidating* jurisdiction. The speculation is concerned with supply effects and therefore does not consider heterogeneity costs. Horizontally integrated government services exist where a unified

policy is pursued across a number of control units, or production plants, with each control unit delivering the same level of production. Police, fire, and education are examples of horizontally integrated services. Water production is an example of a vertically integrated government control unit. In delivering a vertically integrated service, a governmental unit controls multiple production operations, such as the production and distribution of water, in pursuit of a unified policy. Finally, circular integration within a governmental unit delivers a multitude of services that serve to compliment one another; one example is city hall.

Hirsh (1968) contends that growth in small jurisdiction tends to move outwards from a centralized location, such as city hall. Growth, however, requires integration of additional horizontal service units, which are affected by time and distance. For example, as a community grows outward additional fire stations will be required. Expansion through consolidation permits control over existing horizontal units, but in the short run few changes can be made with regard to police and fire stations, hospitals, or other horizontally integrated services. Thus, quasi-long-run conditions are present until replacements are built that reflect the true long run needs of the consolidated governments.

Noting the above conditions as a criterion, Hirsh (1968) speculates on the shape of the cost functions of horizontally integrated services. Using police protection in a small community as an example, Hirsh deduces that police services will face a short-run flat bottom U-shaped cost function. The efficient portion of production is quickly exhausted as population and land areas are added to the city and additional sub-stations

are needed. It is thought that horizontally integrated services account for about 65 to 70% of local government expenditures (Fox and Gurley 2005).

Hirsch (1968) hypothesizes that declining average costs persists with vertically integrated services until operations of excess size are reached and additional fixed investments occur. However, vertically integrated services require more than the production of goods, but their provision or distribution as well. For example, lower per unit costs through economies of scale may arise as electricity production is increased at a fixed plant, but consolidation not only adds people to existing networks, it adds land area. Distributing electricity over increased distances add additional costs that may offset the savings from increased production. Yet, once the fixed investment has been made to expand the electricity grid, average costs may eventually decrease if additional users tap into the expanded infrastructure. This occurs when the lowest cost output is supplied by one plant or governmental entity. A natural monopoly is one term given to this concept, while Schmid (1987) prefers the less policy presumption “superordinary economies of scale.” Other goods in possession of superordinary economies of scale are sewer and water lines and garbage collection routing.

Hirsch (1968) concludes by reasoning that a single plant producing complimentary or circularly integrated services could also display a short-run U-shape cost curve. Dollery and Case (2004) contend that consolidation may reap scale economies on administration costs, such as compensation to government officials and staff, and the facilities and supplies needed to support them. Cost savings may occur through the removal of duplicative personnel, such as the need for only one clerk. Yet again these savings must be weighted against the costs of serving a larger population.

Circularly integrated services may also reap economies of scope if they expand with the size of government, or additional layers of responsibility are added to the consolidated government (Fox and Gurley 2005). For example, the consolidation may result in the co-production of fire and emergency management systems (EMS), whereas before ambulatory services were contracted out in the fragmented government setting.

Although numerous, and conflicting efforts have been made to establish the link between government size and expenditure levels, little work has been done to establish the optimal population of governments. Hirsh (1968), provides one example, and posits that governments serving between 50,000 to 100,000 urban residents may be the most efficient.

2.4 DEMAND SIDE THEORY

2.4.1 Unit Cost and Variety Tradeoff

It has been observed above that because of the indivisibilities of fixed investments for many governmental services, the average cost decreases as more of the good is produced, reaping economies of scale or size. When one plant is the lowest cost supplier the situation is captured by superordinary economies of scale. However, implicit in discussion of economies of scale is a price versus variety tradeoff. People have different values, and given options will make different choices. With economies of scale, however “it pays to have the same tastes as everyone else” (Schmid 2004). It “pays” in the sense that services may be delivered at the lowest unit cost, but price may only be one factor in the decision to consume.

For example, it has been observed that consumers in one Michigan community selected their refuse collector based on the hauler's moral standards displayed by a bible verse painted on the back of each collection truck. The company was not the lowest cost supplier of the three home refuse collection agencies consumers could choose from. The lowest unit cost available in garbage collection is to have only one firm supply the community.

The point is when preferences differ, a tradeoff between price conscious consumers and variety conscious consumers must be made. In garbage collection, if variety is chosen, it is at the expense of those who prefer the lowest cost refuse service. Yet, if price is chosen, it comes at the expense of variety, and a further choice remains in deciding who will be the single supplier. Will the community collect home refuse through a public agency, or will another private collection agency supply the service. The details of these tradeoffs are decided by the consequences from different institutional structures.

2.4.2 Transition and Social Interaction Costs

Significant costs exist in moving from a fragmented setting to a consolidated government. Thus, the decision on the cost savings size of a local government may actually differ from the decision to consolidate (Fox and Gurley 2005). Two forms of costs relevant to consolidation decisions are noted in the literature; transition costs and social interactions costs.⁴ Transition costs associated with consolidation consist of

⁴ Broder and Schmid (1983) use social interaction costs to refer to decision making costs and political externality costs used in Buchanan and Tullock's *Calculus of Consent*. Decision making costs are incurred by individuals who choose to participate in a community service production process, for example, the cost

tangible items, such as removal of duplicative labor through attrition, the merging of computer systems, and the construction of new operational plants to fit the larger government's needs. The magnitudes of these costs often determine the feasibility of consolidation.

Broder and Schmid (1983) contend that in moving from a fragmented to a consolidated setting the distribution of preferences in the new government widens. Consolidation changes the opportunity sets of residents. Benefits are added to individuals when services previously unattainable are supplied. However, these benefits appear as new costs to those who were happy without. With increased population in the consolidated setting, those wishing to maintain their same influence on service level must either incur greater participation (social interaction) costs, or receive a less than desirable service level. The production cost savings of consolidation must be weighed against the cost of individuals receiving or paying for a service level or quality they do not want.

The concept of social interaction cost can be demonstrated by using an example related to snow removal. When it snows people desire to have their road plowed, usually the sooner the better. Under a separated or fragmented government citizens have greater access to the decision-making unit, including local officials who decide on which area to plow first. Under smaller units of government, a citizen complaint to remove their snow ahead of others may register with more force compared to a larger government. Thus, moving from smaller homogenous governments to larger heterogeneous governments is likely to result in a governmental service mismatch. It is, however, possible for the opposite to occur. A minority voice in one community may become a member of the

of information. Political externality costs, on the other hand, are imposed when residents receive or pay for a service they do not want.

majority voice in a larger, consolidated unit. In either instance, Broder and Schmid (1983) urge the analysis to move beyond measures of production efficiency and “attain a clear understanding of property rights and the institutions through which citizens gain effective access to the community service production process.”

2.5 ACHIEVING ALLOCATIVE AND PRODUCTION EFFICIENCY

2.5.1 Competition and Bureaucracy

The public sector in the United States is largely criticized for its inordinate growth, fraud, waste, and intrusion into citizens’ life. Yet, looking back to the years after the great depression confidence in the public sector blossomed. For nearly fifty years following this period government was seen as the cure-all for many social, political, and economic disorders, and with it the public sector saw an enormous expansion in both the number of public employees and public expenditures (Haque 1996 and Schmid 2004). Coinciding with the privatization movement, however, the perception of the public sector shifted. Politicians on both sides of the political spectrum attacked the bureaucracy, promising to clean up the mess in Washington, and to get the federal government off the peoples back (Haque 1996)

In the academic world, public choice scholars⁵ pushed that efficiency is unlikely to be achieved where large bureaucracies exist in the structure of local governments.

They explained that behavior of bureaucrats, like any other economic agent, is motivated

³ For purposes of this paper, public choice scholars refer to proponents of smaller fragmented governments engaged in competition over residents, businesses and their tax base. It should be noted, however, that many academics refer to themselves as public choice scholars. These scholars do not prescribe a specific solution to a problem such as government organization, but rather contrast how differing institutions affect the performance or distribution of property rights in a political economy.

primarily by selfishness, rather than the public interest (Boyne 1998 and Haque 1996). Seeking influence, prestige, and higher salaries for themselves, utility-maximizing bureaucrats inflate the size of the budget beyond a desired service level (Lowery 1999 and Schmid 2004). Bureaucrats can accomplish this because of the high costs of obtaining information on the cost per unit of service (Schmid 2004). Consolidation of local governments would serve to extend the influence of bureaucrats by increasing their monopolistic powers and should be rejected.

For example, bureaucrats serve as department heads in local governments, such as police and fire chiefs, road commissioners, clerks, and treasurers. These officials are often given the task of completing budget request forms asking them to provide information on the amount of personal, supplies, and capital needed to deliver services from their department. Operating in their self-interest, and that of their department, it is assumed that these local officials will inflate the cost of providing their service beyond the true unit cost.

The administrator, mayor, council/commission, or others who have budgetary power must rely, in part, on the information provided in these forms to determine monetary allowances for each department. The larger the local government, the higher the information cost to align budgetary allowances with service levels. The question remains, could the work in fact be done with fewer resources and at a lower cost for taxpayers. However, without questioning motivation of public officials', a less presumptive rationale also appears. Officials in small local governments, often serving part-time, lack the ability and resources to critically examine and submit budget

proposals. They can focus on few less complicated evaluative measures of service performance, but may miss more complicated items.

The solution to the monopolistic bureaucracy offered by public choice scholars is to build incentives of competitive markets into local governments. Generally regarded as arising from the work of Tiebout (1956) and Ostrom, Tibout & Warren (1961), these public choice scholars propose that increased efficiency in the provision of public services is obtained from many decentralized local governments. Labeled the Tiebout Theory; it proposes that “[p]atterns of competition among producers of public services in a metropolitan area, just as among firms in a market, may produce substantial benefits by inducing self-regulating tendencies with pressure for the more efficient solution in the operation of the whole system” Ostrom, Tibout & Warren (1961).

Requiring a highly mobilized citizenry, Tiebout residents and businesses “vote with their feet,” choosing among competing political jurisdictions offering various levels and quality of services. This ensuing competition “disciplines inefficient jurisdictions through threatened or actual emigration of taxpayers and tax bases” (Miller, 1993). Therefore, not only does productive efficiency increase through competition in a highly fragmented system of governments, but allocative efficiency is reached by a smaller, more responsive set of local governments. Placed in the context of this paper’s framework; supply and demand factors converge, but do not necessarily meet.

2.5.1.1 Quasi-Markets Institutions

Whereas the ability to exit one jurisdiction for another, *a la* Tiebout exiting, indirectly introduced market-like forces into government service provision, separating

public *provision* from *production* directly introduces the market by opening the latter to competitive bidding of contracts, franchising or vouchers (Lowery 1998). Ostrom, Tiebout, & Warren (1961) contend that as an alternative to each jurisdiction producing its own service, additional competition arises when a public service can be provided to an area by more than one unit of government through contractual agreements. For example, as an alternative to every unit of government producing its own public safety it is common for a small community to contract with a larger producer for fire and police services.

When a single-purpose government is chosen to deliver government services, there is no necessity to map the provision unit to existing boundaries. Single-purpose authorities can cut across any number of governments in search of the greatest scale economies. Consequently, a local government can search for the lowest cost method of meeting its service provision requirements; either through contracting in a quasi-market setting or through self-production. Cost minimization assumes all suppliers provide the same quality. Consolidation would therefore limit the number of contractual opportunities in exchange for a monopolistic government.

Extending this argument, it is not important that the contract service be with another public agency. Many supporters of quasi-markets concluded that the efficiency enhancement requirement could be met, and maximized, by contracting out government services to private agencies that in general have a greater incentive to economize. However, as Schmid (2004) notes, there are two ways to economize, either find a cheaper method of delivering a service, or reduce the service quality. And where the quality of the

service in question has high information cost, the incentive is for the producer to reduce quality.

It has already been stated that where economies of scope exist a suboptimal provision of government services may arise. Lowery (1998 and 1999) finds three ways additional ways in which quasi-markets, both the Tiebout induced communities and the contracting/voucher variety, fail to satisfy their productive and allocative efficiency enhancing requirement. First, on the supply side there must be a functioning competitive quasi-market of producers. However, stark socioeconomic differences often prevent many minority filled inner cities from contracting with their white suburbs. Lowery (1999) notes that many critics of the Tiebout model find “that low income and minority consumers are excluded systematically from the assumed benefits of Tiebout quasi-markets because of limited access to minimally viable tax base.” It is not free of cost to move, and as Hill (1974) suggests the control over land use regulations by current residents can prevent low income and minority movers from entering.

Secondly, the choice to provide a service is always precedent to production. If needed or desired by citizens of a community the government will provide a service because the private market alternatives fail to do so adequately. For example, a community will not offer 24-hour police protection if there is neither crime, nor preference for such a service in the community. However, by separating production from provision the opportunity presents for producers to substitute their preference for that of the provider. If the choice to produce quality services, such as education, police, or fire, is guided by race, income, or religion, or any other criteria not intended by the community as providers, preferences will not be realized.

Lowery (1998) uses school vouchers as an example to illustrate this preference substitution failure. He assumes that government providers demand quality education as it fits into their broad goals as service providers. Likewise, if voucher-parents acting as production consumers also demand quality education, no preference substitution will occur. However, if race or class guides the voucher parents exit from the school system, some peoples' preference for quality education will be substituted for segregation to the detriment of others.

Finally, recognizing the bounded rationality of consumers, quasi-markets can fail to meet consumer's demand if they lack the information to make a choice reflecting their preference. For example, when choosing a new community to live in many people with children look to the quality of area schools. Parents examine the quality of teachers, textbooks, curriculum, and extra curricular activities. Yet, there is more than school quality to examine when choosing a community. Tax rates, police and fire services, parks and recreational activities, all have to be ranked and compared against each other, and against other community tax/service packages. Too many variables exist for the limited processing capability of the human mind to handle. Often-simple decision heuristics, including race and class, guide the search for a community (Lowery 2000).

2.5.2 Size, Competition, and Economic Development

During the 1990's financial pressure on Canadian municipalities put consolidation proposals on the forefront as an option to improve both the efficiency and the effectiveness of local government (Vojnovic 2000). Specifically, amalgamations processes were advocated, entailing the restructuring of a number of local government

into one large municipality. In addition to capturing scale economies and improving equity across jurisdictional boundaries, advocates promoted economic development as rationale for the amalgamations. Vojonivic (2000) theorizes a twofold rationale behind the expected improved economic development; first, the pooling of monetary and labor resources in a larger jurisdiction provides advantages over a smaller, less stable jurisdiction; and second, competition for industrial and commercial investment is inefficient across jurisdictions and is costly to all parties involved.

Vojanivic (2000) cites the advantages of a higher quality and wider range of services obtained when a larger and more stable tax base is achieved through consolidation. The pooling of resources in a larger government may result in new initiatives to attract investments that now can be collectively pursued. These initiatives include infrastructure improvements, industrial site development, and downtown revitalization. Larger governments can also attract a highly specialized staff that can develop and articulate a more robust development strategy. This includes increased advertising, such as more professional publications and information packages. Further, improved timeliness and professionalism of zoning and development programs in larger professional governments can streamline the bureaucracy that often frustrates development efforts.

Secondly, without a means to share in tax revenues, competition between local municipalities for tax base remains a zero-sum game; the winner receives the revenue, and the loser receives nothing. Vojonivic (2000) proposes that to attract commercial and industrial development in its boundaries a jurisdiction may keep its tax rate low, or offer abatements that fall below the cost of providing services to these enterprises. Resembling

the prisoner's dilemma of game theory, the best scenario for any particular government is to offer a tax break and then not have it matched by its competitor's. The worst scenario is to not offer a tax break in face of your competitor's tax incentive (Kenyon 1997). The welfare maximizing option is for neither government to offer a tax break. However, the incentives drive both governments to offer tax abatements, resulting in less than optimal tax level.

It has been suggested that regional economic agreements can be forged between local governments to lessen competition, but these agreements can fail for two reasons. First, it is costly to monitor each individual local government to ensure the adherence to the agreement. Second, political pressures may permit certain financially and socially distressed communities to exit the pact to the frustration of the others. Conversely, by transforming numerous local communities into one large government through consolidation or amalgamation, the number of competitors are reduced, not necessarily competition.

2.6 Property Rights and Spillovers

Recognizing that the output of local publicly provided goods was subject to varied patterns of consumption, Oates (2005) concludes there could hardly exist a local government whose geographical pattern mapped directly to the benefit of every provided good. In particular, Oates furthered that because of the inherent characteristics of some goods and services, the output decision of one local unit of government may extend beyond, or spillover its own jurisdiction boundary and accrue to residents of other

jurisdictions who can't be excluded if a good exists at all. In economics, these spillovers are sometimes referred to as externalities.

Commonly spillover affects are considered in relation to environmental amenities, such as river and air quality, but spillover effects can exist in provision of roads and sewer and water. For example, the City of Detroit has been in a decade's long feud with the neighboring suburbs over access to municipal water. Detroit owns the water system and is therefore able to regulate the price and access to the suburbs where three-fourths of the customers reside. Neighboring residents have often complained that the decisions made by Detroit have been for the betterment of its own jurisdiction, and to the detriment of the suburbs.

However, the issue with the Detroit water system is whose interests count. If the property rights lie with Detroit, costs, i.e. shortages and poor quality are placed on the suburbs. If the suburbs were given control, then the cost would be placed on the City of Detroit. The distribution of externalities is therefore not unique or inherent in the situation, but is a function of the property rights distribution.

Coase (1960) argued that if property rights are clearly defined and there are no transactions costs, the resource would end up with the highest valued user. But the highest valued user is a function of the initial property rights distribution. If user A owns, her value is unconstrained, but if user B wishes to own, his highest value is constrained by his budget. This limits the usefulness of welfare efficiency calculations. As Lowery (2000) reminds us, it is jurisdictional boundaries that "define the political property rights that largely determine the outcomes of situations of interdependent self-interests."

The Michigan Constitution empowers townships as the default general-purpose government for residents not incorporated by a city or village. Generally, covering a six-by-six square mile area, Michigan boasts 1,242 township governments. Dating back to the early 20th century, it was cities, not townships, which provided the needed infrastructure to serve Michigan's automobile manufacturing sector. Beginning in the 1950's new highway and infrastructure investments by the State, 'paved' the way to new development outside city boundaries. Townships were able to offer green fields, infrastructure, police, fire and other services at cheaper costs than their city counterparts. As the city lost its service provision advantage to townships an uneven mix of economic and social conditions developed, often corresponding along racial lines. For example, the City of Detroit went from 16 automotive plants during the 1960's, to only 3 remaining through the 1990's (Franklin, 2005). Its population declined by over 50% from a peak in the 1950's, most noticeably the population of white residents shrank from 1,545,847 to 116,599 as of the last census period in 2000.

There is nothing, however, inherent in a system of local governance that supports fragmentation. The resources lost by cities do not have to be gained by townships, and vice versa. Constitutions evolve, and are a function of power and ideology. Strong home rule provisions and the winner take all approach to economic resources can be modified. Public choice scholars when insistent on the Pareto principle deny that allocation of resources (property rights) should be subject to an evolving political discussion (Lowery 1999). Consolidation expands one set political property rights over a larger jurisdiction, so that formerly redistributive transactions under a fragmented setting become allocative decisions in a consolidated setting (Lowery 2000). Firms that relocate to the suburbs

could no longer escape the social costs of laid off city workers or abandoned inner-city infrastructure left behind. Similarly, urban sprawl and failing inter-city schools would remain in the cost function of those who fled to the suburbs.

CHAPTER THREE- HISTORY OF THE IRON RIVER CONSOLIDATION

In creating the consolidated City of Iron River on July 1, 2000, the political boundaries of the City of Iron River were merged with the Village of Mineral Hills and the City of Stambaugh. Requiring a simple majority vote within each jurisdiction, the measure passed with 84% in Iron River, 69% in Stambaugh, and 72% in Mineral Hills on November 2, 1999. Consolidation had been a recurring theme in the communities dating back to 1971 when the U.S. Department of Housing and Urban Development first financed a study looking at merging the Cities of Iron River, Stambaugh, Gaastra, Caspian and the Village of Mineral Hills (study unavailable).

The successful consolidation effort began in 1994 when the five communities involved in the 1971 study requested assistance from Michigan State University Extension in exploring the potential for municipal consolidation. The West Side Consolidation Committee formed a year later, and was tasked with facilitating discussion between the municipal governments, gauging citizen perceptions, and examining the financial implications of a possible merger. A \$59,000 grant was obtained from the Michigan's Jobs Commission to partially offset legal, travel, and research costs.

Finding initial citizen support from a series of 'focus group' discussions led by MSU personnel, the Committee turned to a Wisconsin firm to determine if the feedback was representative of other citizens in the community. Satisfied with the results of a stratified random phone survey, the first consolidation petition was filed with the State

Boundary Commission in 1997.⁶ The City of Gaastra was excluded from this petition after they failed to pass the needed municipal ordinance.

The first consolidation measure was voted on November 3, 1998. Voters in the City of Caspian rejected the measure, defeating the entire consolidation effort. Yet, majority support in the Cities of Iron River and Stambaugh, and the Village of Mineral Hills provided sufficient optimism to proceed without Caspian. New financial analyses were undertaken, additional citizen education efforts conducted, and legal documents redrawn, all leading to the successful consolidation vote exactly a year after the initial defeat.

3.1 Political and Social Capital

The geographical adjacency of the political units had always been a key asset in building cooperative relationships between residents of the communities. (Refer to Appendix B for a pre and post consolidation map of the three units.) Prior to consolidation fire services for the City of Iron River, Village of Mineral Hills and neighboring Iron River, Bates, and Stambaugh Townships were provided cooperatively through the West Iron County Fire Authority, whereas the Tri-City Fire Authority provided fire services for the cities of Caspian, Gaastra, and Stambaugh. Post consolidation the West Iron County Fire Authority expanded its boundary to encompass the former city of Stambaugh.

Cooperation also existed in police services prior to the consolidation. Following the disbandment of their police force in 1996 the City of Stambaugh began a contractual

⁶ Appendix A contains a brief synopsis of the legal process involved in the consolidation of local units of government in Michigan, including the appropriate citations of State statute.

agreement with the City of Iron River for police protection. Although some Stambaugh residents strongly resisted the disbandment of the City's police force, residents eventually came to have an expectation of seeing Iron River police patrols in their community.

Discussion with community stakeholders revealed that cooperation in police and fire services helped clear substantial political hurdles regarding the consolidation. Police and fire services are often the most visible services to citizens. In many smaller communities these services generate a significant amount of community pride and social/political capital. Changing provision arrangement in these services can elicit strong emotion on both sides of the issue, especially when self-production is exchanged for contracting, or a volunteer department is replaced with professional staffing. In this one aspect, the consolidation procedure may have been less contentious than otherwise expected.

3.2 Economic History

The upper peninsula of Michigan is home to numerous small cities and villages that evolved from iron and copper mining communities developed during the mid-1800s. Throughout this period, copper mining was prevalent in Keweenaw, Houghton, and Ontonagon counties. Copper mining in Michigan effectively ceased in 1969, although small operations continued until the last mine closed in 1997. Heavy concentrations of Iron deposits were located in modern Alger, Dickinson, Gogebic, Houghton, Iron, and Marquette counties. Three of the six principle iron ranges in the United States are located primarily in the western Upper Peninsula, with two extending slightly into Northern Wisconsin (Stiffler 2001).

Similarly, the timber industry in Michigan began with a wave of pioneers in 1820, peaking 50 years later with logging of white pine in the Upper Peninsula. Saw mills and logs camps were located on river shores, where waterways powered the mills and transported harvested logs, eventually to be shipped out via the Great Lakes.

The effective end of mining operations in the late 1960's and the declining importance of the timber industry to local tax bases, strained the rural economy of the Upper Peninsula. Significant population declines resulted if new jobs were not created to retain the rural workforce. Urban concentrations developed primarily around state universities or other federal and state facilities. This stress in the Upper Peninsula mirrors the deterioration of other rural communities in the United States following the decline of the agricultural sector.

Each of the communities that participated in the consolidation was organized around a mining operation. At its peak, the incorporated areas had over 20 profitable deep-shaft iron ore mines. Historically the local governments' dependence on mining revenue caused hardships, and as early as 1918 when mining operation slowed, Stambaugh considered dissolving and returning to the Township. Only the City of Iron River was able to develop enough commercial activity to lessen its reliance on mining property tax revenue. In 1958, Stambaugh and Mineral Hills received between 75 to 90% of their tax revenue from mining operations, whereas Iron River received less than 10%. This one source dependence was devastating when the decline of deep-shaft iron mining accelerated during the 1960's. New technologies made use of low-grade iron-ore more profitable than direct shipping grade product found in the deep-shaft mines of the area (Silfven, 2000). By 1978, the last deep-shaft mine closed permanently in the area.

CHAPTER FOUR- IMPACTS OF CONSOLIDATION

It is hypothesized that compared to the pre consolidation time period, holding service content constant, the growth rate in expenditures should slow, or even trend downward following consolidation. There may, however, be substantial costs associated with transitioning to a consolidated government in the first year or two. These costs could include the retraining of employees, moving of offices and equipment, and the alignment of computer software and data. Yet, the per unit cost of providing the municipal service should eventually decline under consolidation as additional population is attributed to fixed municipal operating plants. This presupposes that duplicative services, personnel, and capital are removed, and that economies of scale costs savings on the fixed inputs exceed the potential cost of distributing services over a broader geographical region.

The analysis presented in this section examines the cost structure of general operations in the three municipal governments involved in the consolidation. The foremost objective motivating consolidation proponents had been to reduce “day-to-day” operating expenditures. However, as municipal expenditures reflect the costs associated with the level *and* quality of municipal services performed, an expenditure reduction in government operations is not synonymous with a reduction in costs. Expenditure reductions following consolidation can be the result of a decrease in service level or standard, and not consolidation itself. The methodology undertaken in this analysis is sensitive to this issue in order to draw valid efficiency implications.

A search of the empirical literature on municipal consolidation suggested that when undertaking an analysis where a fragmented setting is exchanged for a consolidated structure, the pre consolidation aggregation of governments should be compared to the unified government after consolidation (Benton and Gamble 1984). Thus, expenditures of each individual governmental unit, Iron River, Stambaugh, and Mineral Hills are aggregated or combined prior to consolidation, and compared to the financial structure of the new consolidated unit. Avoiding the limitations of relying exclusively on expenditure data, service provision arrangements, employee levels, and other anecdotal evidence was gathered from stakeholder interviews.

4.1 Pre and Post Consolidation Total General Fund Expenditures

The scope of the cost structure analysis is restricted to General Fund expenditures because of limited data availability. General Fund expenditures consist largely of operational expenditures conducted in a local municipality, such as the treasurer and clerk's department, in addition to legislative, executive, and judicial functions. For the three governmental units involved in the consolidation, police and fire services are also accounted in the General Fund.

Fortunately, smaller local units of government tend to include a significant portion of general operating expenditures in the General Fund. For example, in 2005 Iron River's General Fund accounted for 63% of total Governmental Funds⁷. A cursory look outside Iron River's General Fund indicated the presence of only two special revenue fund types, the Major Street Fund and the Local Street Fund. If combined with the

⁷ Government Funds include the General Fund, Special Revenue Funds, Debt Service Funds, and Capital Outlay Funds. Fiduciary and Enterprise functions and activities are not included in Governmental Funds.

General Fund, these two special revenue funds accounted for 81% of all Governmental Funds, with debt service and capital outlay comprising the rest. The use of General Fund data should therefore provide a useful analysis of the consolidation effort.

It should be noted that expenditures might be shifted across funds. Expenditure reductions in one fund might be illusory if the result of a fund transfer. However, establishing a direct link between intra-unit fund gains and reductions is at best difficult. The movement across funds is elusive, rarely resulting in a one to one relationship. This deficiency in governmental accounting is partially compensated in this analysis with information collected during personal interviews.

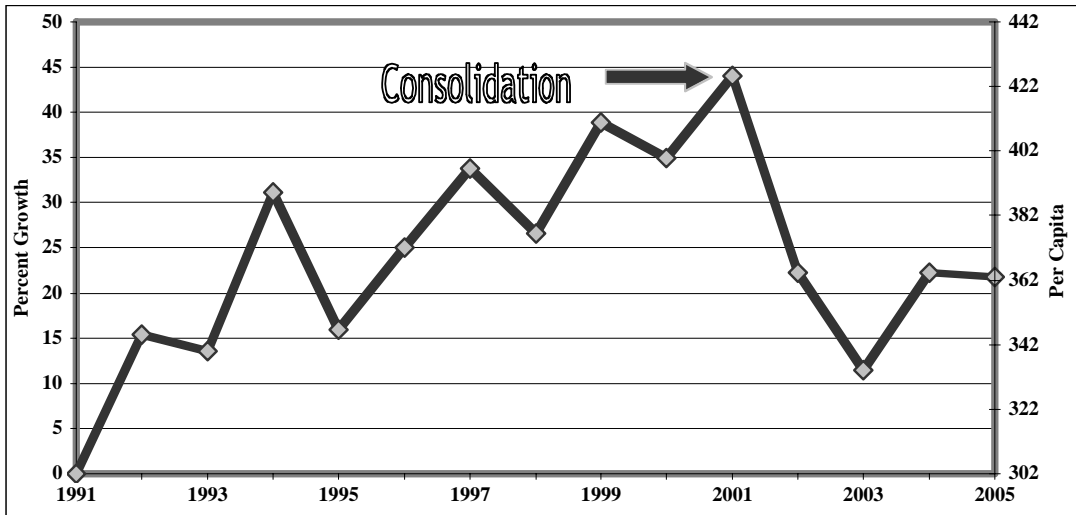
Figure 1, displays the growth in *real* per capita General Fund dollars for the three governments. Prior to 2000, the expenditures of the fragmented units are combined to provide for a consistent comparison to post consolidation expenditures. Per capita expenditure levels were calculated from 1990, 2000, and 2005 population data, and are displayed in constant 1991 dollars throughout the entirety of the Chapter.⁸

A general upward trend in per capita General Fund expenditures is found in the fragmented structure of the three governments prior to consolidation. Operating as individual entities, per capita General Fund expenditures grew from \$302 to \$407, a total of 34.9% between 1991 and 2000. The first observation following the consolidation occurred in 2001, and should, with the possibility of one additional year, encompass the transitional effects of moving to the consolidated government. However, the observed impact in the first transition year was only a 6.7% increase in per capita expenditures

⁸ The difference between the 1990 and 2000 census periods was smoothed out, allocating 10% of the difference in population per year. Equally, per capita expenditure for the five-year post consolidation time period between 2000 and 2005 were distributed in the same manner, with population estimates from 2004 serving as the 2005 base.

over the prior year. This was well within prior year growth rates. These transitional expenditures, however, must be balanced against a reduction or elimination of redundant activities in moving to the consolidated unit.

Figure 1: Growth in Per Capita Total General Fund Expenditures for Consolidated Units



In the subsequent two years, 2002 and 2003, expenditures declined from the 2001 level. Per capita expenditures in 2003 were lower than any level since the base year of 1991. An upward swing in per capita expenditure followed the trough in 2003, ending at \$368 in 2005. Appendix C contains real per capita municipal expenditure detail by *individual* government, as well as the aggregated data used in the above analysis.

4.2 First Year Expenditures by Municipal Function

Critical to an analysis of cost saving is the examination of first year operations in the consolidated government. First year expenditures contain transitional costs, and reveal staffing levels and municipal spending decisions. Consolidation of the three

municipal governments demonstrated the reduction in General Fund operating expenditures advertised by consolidation proponents. What is not clear is where and why the expenditures were reduced.

Table 1 displays per capita expenditures by municipal function in both the fragmented and consolidated governance structure. Although changes in annual population were minimal, Appendix D eliminates population impacts by displaying General Fund expenditure data in level dollars.⁹ Presented in the same manner as the analysis above, per capita General Fund expenditures for the pre consolidation period reflect the aggregated totals of the Cities of Iron River and Stambaugh, as well as the Village of Mineral Hills. By comparing these fragmented per capita figures with the consolidated totals, expenditure changes can be pinpointed by specific municipal function. When combined with service content data, these expenditure changes can illustrate the improved efficiencies resulting from the newly consolidated government.

Police protection and general governmental services represent the most significant change in municipal expenditures in the first year. Police services declined from \$81.80 per resident in 2000, to only \$56.60 in 2001, while general government services increased from \$81.80 to \$118.50 per resident. The allocation of municipal services is illustrated in Table 2. Viewed in this manner, police service declined from 20.1% of municipal spending in 2000 to 13.0% in 2001. Corresponding with this decline in police services, general government operation increased their share of municipal spending a little over seven percentage points, rising from 20.1% to 27.3%.

⁹ For example, in *real dollar* figures, first year allowance for general government operation increased 43.3% (\$120,000), while dollars allocated for police services declined 31.6% (\$87,700). Comparatively, first year *per capita* expenditures in the consolidated government increased 44.9% for general government operations, while declining 30.8% for police.

Table 1: Per Capita Expenditures by Municipal Function for Iron River

	<u>Pre</u>		<u>Post-Consolidation</u>					<u>% Change</u>	
	1991	2000	2001	2002	2003	2004	2005	91-00	00-05
<i>Consolidated Iron River</i>									
General Government (\$)	74.44	81.78	118.53	83.97	69.76	73.19	81.44	9.9	(0.4)
Annual Change (\$)		-	36.8	(34.6)	(14.2)	3.4	8.3	-	-
Annual Change (%)		-	44.9	(29.2)	(16.9)	4.9	11.3	-	-
Police	49.25	81.77	56.55	57.73	57.27	58.69	60.31	66.0	(26.2)
		-	(25.2)	1.2	(0.5)	1.4	1.6	-	-
		-	(30.8)	2.1	(0.8)	2.5	2.7	-	-
Fire	7.79	10.17	12.15	4.99	4.65	4.71	4.51	30.6	(55.7)
		-	2.0	(7.2)	(0.3)	0.1	(0.2)	-	-
		-	19.4	(59.0)	(6.7)	1.2	(4.3)	-	-
Public Works	77.87	101.11	112.70	126.40	121.00	108.45	86.51	29.8	(14.4)
		-	11.6	13.7	(5.4)	(12.5)	(21.9)	-	-
		-	11.5	12.2	(4.3)	(10.4)	(20.2)	-	-
Recreation	14.13	8.52	10.65	5.03	10.26	11.90	14.17	(39.7)	66.2
		-	2.1	(5.6)	5.2	1.6	2.3	-	-
		-	25.0	(52.8)	103.9	16.1	19.0	-	-
Employee Welfare	78.49	124.02	124.36	91.22	73.76	112.41	120.95	58.0	(2.5)
		-	0.3	(33.1)	(17.5)	38.6	8.5	-	-
		-	0.3	(26.6)	(19.1)	52.4	7.6	-	-
Total Expenditures	301.97	407.38	434.94	369.33	336.70	369.36	367.87	34.9	(9.7)
		-	27.6	(65.6)	(32.6)	32.7	(1.5)	-	-
		-	6.8	(15.1)	(8.8)	9.7	(0.4)	-	-

Source: Michigan Department of Treasury**Table 2: Per Capita Expenditure Percent Share by Municipal Function for Iron River**

	<u>Pre</u>		<u>Post-Consolidation</u>					<u>Change</u>		
	1991	2000	2001	2002	2003	2004	2005	91-00	00-01	00-05
<i>Consolidated Iron River</i>										
General Government	24.7	20.1	27.3	22.7	20.7	19.8	22.1	(4.6)	7.2	2.1
Police	16.3	20.1	13.0	15.6	17.0	15.9	16.4	3.8	(7.1)	(3.7)
Fire	2.6	2.5	2.8	1.4	1.4	1.3	1.2	(0.1)	0.3	(1.3)
Public Works	25.8	24.8	25.9	34.2	35.9	29.4	23.5	(1.0)	1.1	(1.3)
Recreation	4.7	2.1	2.4	1.4	3.0	3.2	3.9	(2.6)	0.4	1.8
Employee Welfare	26.0	30.4	28.6	24.7	21.9	30.4	32.9	4.5	(1.9)	2.4
Total Expenditures	100.0	100.0	100.0	100.0	100.0	100.0	100.0	N/a	N/a	N/a

Source: Michigan Department of Treasury 1991-2000 and 2001-2005

4.2.1 First Year Cost Drivers

Transition to a consolidated unit of government is a costly procedure. Expenses are incurred when multiple units of governments must combine to create one single administrative entity. For example, prior to consolidation the Cities of Iron River and Stambaugh used the same computer software for tax preparation, while the Village of Mineral Hills operated under a separate system. Other utility and customer billing information had to be combined. Consequently, the year following consolidation, computer-consulting expenses rose almost seven-fold, from \$3,378 to \$26,264.¹⁰ The remaining four years of the study computer consulting averaged \$8,862.

Municipal decisions, including land use, represent another type of transitional expense. Expenses incurred with the rewriting of planning and zoning ordinances, as well as the redrafting of municipal agreements to reflect new jurisdiction boundaries. This translated to a surge of legal expense between 2000 and 2001, which increased from \$24,531 to \$42,514, or 73.3%. Both years are comparatively higher than the proceeding four-year average of \$16,462.

Consolidation did not result in fewer police officers, patrol vehicles, or offices, but did result in a lowering of the per capita cost. A buy-sell arrangement already existed since 1996 in the provision of police services between the Iron River, the seller, and Stambaugh, the purchaser (Table 3). The Village of Mineral Hills relied on Iron County Sheriff and State Police road patrols. As a result, the reduction in police expenditures following the consolidation occurred because Stambaugh no longer had to remit

¹⁰ For consistency purposes FY 2000 data below operational or function level (i.e. general government, police, fire, and public works) is from budgetary schedules for Iron River, Stambaugh, and Mineral Hills. The data is un-audited, and was compiled by an unknown source.

contractual payments for police protection; their residents were now part of the production unit.

An argument could be extended that police expenditures were being double counted prior to consolidation.¹¹ This is true only if it is assumed that the City of Iron River had to adjust upwards the quantity or quality of police protection to meet the demands of contractual agreements with the City of Stambaugh, and that this monetary increase is reflected in the City of Iron River's General Fund. Examining General Fund police expenditures during the first year as provider to Stambaugh, Iron River showed an increase of \$28,821; compared to \$83,608 Stambaugh was remitting. Either excess capacity existed in Iron River's police services, or the remainder of the payment was used to finance the fixed investment.

4.2.2 Transition Staffing Levels

No employee was forced to vacate his or her position as a result of the consolidation. However, some employees chose not to work in the new government structure. As shown in Table 3, part-time employees performed general government operations in the Village of Mineral Hills prior to consolidation. The Village employee responsible for staffing the clerk and treasures' office did not participate in the new government. The clerk for the City of Iron River remained in her position in the new government, with Stambaugh's city clerk becoming the deputy. The treasurers from both Iron River and Stambaugh transferred their position to staff the treasurer's office. The

¹¹The double counting of police expenditures could arise because of the aggregation of expenditures prior to consolidation. The General Fund payment from the City of Stambaugh to the City of Iron River is recorded as expenditure for Stambaugh. However, in executing the contract, the City of Iron River may also record a General Fund expenditure for the service provided. In this situation, police expenditures are recorded twice in the delivery of the same government service.

retirement of Iron River’s treasurer the following year saw the position replaced with a deputy.

Table 3: Employment Matrix and Service Arrangement for Consolidated Units

	<u>2000</u>			<u>2001</u>	<u>2005</u>
	<u>Iron River</u>	<u>Stambaugh</u>	<u>Mineral Hills</u>	<u>Consolidated Iron River</u>	
<i>Gen Government</i>					
Manager	1	1	Part-time	1	1
Clerk	1	1	Part-time	2	2
Treasurer	1	1	Part-time	2	2
<i>Public Works</i>	7	4	2	13	13
<i>Police</i>	7 Full-time Officers	Contract with City of Iron River starting in 1996	No Contract- Relied on Iron County Sheriff and State Police	7 Full-time Officers	7 Full-time Officers
<i>Fire</i>	All Volunteer Department-Quarterly Payments to West Iron Fire Authority (WIFA).	All Volunteer Department-Payments to Tri-City Fire Authority (TCFA).	All Volunteer Department-Payments to WIFA.	All Volunteer Department-Quarterly payment to WIFA. First two Quarters of the FY for the former City of Stambaugh provided by TCFA under existing contract.	All Volunteer Department-Quarterly Payments to WIFA.

The search for a new city manger was agreed to in the consolidated government; replacing both the city manager for Iron River and Stambaugh. An interim administrator was brought in during the transition period. Mineral Hills also had two full-time public works employees, one of whom operated as the part-time manager for no additional pay. Both employees joined the public works department in the new government. All public works employees in Iron River and Stambaugh were employed in the new government. As shown in Table 3, fire services for the communities remained under volunteer-staffed fire authorities, and no change in staffing levels could be identified during the transition year.

To summarize, no changes in employment levels, outside general government operations, were made in the transitioning from the fragmented setting. Two full, and one part-time administrator were replaced with one. Overall staffing levels remained the same in the clerk and treasurer offices, less the part-time Mineral Hills employee. Instead of two treasurers and two clerks in the new government, one from each office was replaced with a deputy or assistant.

The first year reorganization of general government employees had a negligible impact on total General Fund salaries paid. As identified in Table 4, total General Fund salaries decreased from \$410,820 in 2000 to \$406,520, a difference of only \$4,300. The salary data do not include employee benefits, which are aggregated across municipal departments and recorded in a separate line item. The removal of Stambaugh and Iron River's city managers, and the hiring of a temporary replacement had the largest impact. Salaries in the manager's office decreased \$15,030, or 28.5% the first year. The two employees in the consolidated treasurer's office recorded \$8,040 in higher salaries over the fragmented setting, while the clerk's office gained \$1,480. For a detailed examination of General Fund salaries by municipal function, refer to Appendix E.

**Table 4: General Government Employee Salaries for Consolidated Units¹
(Hundred Dollars)**

	2000			Total	2001	2002	2003	2004	2005
	IR	STMB	MH						
<i>General Fund Salaries</i>									
City Manager	390.1	136.4	-	526.5	376.2	226.1	183.7	269.1	227.4
City Assessor	94.1	44.1	-	138.2	-	-	-	60.1	-
City Clerk	261.2	122.4	59.1	442.8	457.6	172.6	155.2	163.7	116.8
City Treasurer	239.6	92.0	15.6	347.3	427.7	193.9	121.1	181.0	130.9
City Hall	76.0	4.2	-	80.2	132.0	102.4	60.0	52.3	76.4
Other	18.6	51.1	19.6	89.3	83.0	192.7	43.5	51.5	131.9
Total Gen Government	1,079.7	450.3	94.3	1,624.3	1,476.6	887.6	563.4	777.7	683.4
Total General Fund	3,268.1	576.9	263.2	4,108.2	4,065.2	3,639.2	3,517.4	3,698.3	3,417.6
Employee Welfare¹	2,967.1	869.1	224.0	4,060.3	4,168.5	3,022.0	2,415.0	3,636.4	3,865.4
<i>Enterprise Fund Salaries</i>									
Sewer-Admin Salaries	-	45.6	-	45.6	-	220.4	217.4	206.7	224.0
Water-Admin Salaries	165.5	101.3	8.4	275.3	10.9	242.4	236.8	240.8	249.3
Total Enterprise	165.5	146.9	8.4	320.9	10.9	462.9	454.2	447.5	473.3
Employee Welfare	42.9	47.5	2.2	92.7	5.1	302.0	337.1	377.7	507.8
<i>General Fund + Enterprise Funds</i>									
Total Salaries	3,433.6	723.9	271.7	4,429.1	4,076.1	4,102.0	3,971.6	4,145.8	3,890.9
Employee Welfare	3,010.1	916.7	226.2	4,153.0	4,173.6	3,324.0	2,752.1	4,014.2	4,373.3

Source: Budgetary Schedule 2000 and Michigan Department of Treasury 2001-2005

¹ Salary and employee welfare data for the year 2000 is taken from an un-audited budgetary schedule. Totals do not match employee welfare used for calculations of total General Fund expenditures used throughout the analysis. The difference between the two is \$14,570.

4.3 Post Transition Expenditure and Service Level Analysis

Examination past the first year is of obvious importance in the evaluation of the new government's cost structure. A decline of nearly \$100.00 in total per capita General Fund expenditures occurred across the two-year period following the transition year. One-third of this decrease was erased in 2004 and 2005 (Table 1). Volatile expenditure movement is to be expected in the short-term. Stability will gradually appear as transitional expenses expire and the new governmental organization and priorities take hold. There is no set time frame for this to occur.

4.3.1 Police and Fire Services

Police and fire services were generally stable across the five-year post consolidation time period. After an initial expenditure reduction following consolidation, police services increased only \$3.70 per capita between 2001 and 2005 (Table 1), with no change in staffing levels (Table 3). For the first half of 2001, residents of the City of Stambaugh received fire protection from their initial provider, the Tri-City Fire Authority. Fire services for the second half of 2001, and throughout the remainder of the study, were supplied by the West Iron Fire Authority. The move to the singular authority reduced per capita fire expenditures from \$12.10 in 2001 to \$5.00 in 2002. The final year of the study recorded per capita fire expenditures of \$4.50.

4.3.2 Public Works

The public works department maintained the same staffing levels pre and post consolidation, while multiple garages spread across the three communities were consolidated to one. In year two of the consolidation a fire destroyed the public works garage and all public works equipment. Neighboring communities donated equipment until acquisition of a new fleet occurred. Insurance monies eventually purchased a new set of equipment matching the community's needs. In this aspect the fire was a benefit to the community; duplicative equipment was destroyed resulting in an appropriate fleet adjustment.

General Fund public works expenditures consisted of sanitation (refuse), highway and street maintenance, sidewalks, and street lighting. Work quality in department

benefited from consolidation because personnel were permitted to specialize. One crew specialized in sewer, another in water, and a third focused on routine maintenance. For example, the critical mass of public works personnel permitted routine maintenance of fire hydrants, extending the life of the hydrants, and reducing maintenance and capital costs. Garbage service improved for many residents as well. Whereas before the consolidation residents of the City of Stambaugh purchased refuse bags for garbage collection, following consolidation a private contract provided full-service garbage collection to the entire community.

The first three years following consolidation public works expenditure levels stayed relatively constant. However, starting in 2004 and continuing on into 2005, public works expenditures declined \$34.50 per capita from their 2003 levels. Two primary occurrences in the public works department account for this reduction. The first is a \$14.40 per capita decline in sanitation costs, or per capita solid refuse expenditures as included in Appendix C. The second occurrence is \$22,190 decline in 2005 General Fund wages paid to public works employees over the prior year's total. Translated into per capita figures, this is two-year reduction of \$6.80. The salary reduction did not reflect lower staffing levels, but rather a shift from the General Fund to the special revenue street funds and sewer and water enterprise funds to account for labor hours recorded in these funds.

4.3.3 General Government Operations

The greatest volatility in the newly consolidated government occurred in general government operations. However, outside the elimination of one full-time administration

position and the replacement of two employees with assistants, little consolidation cost savings could be found. As mentioned previously, general government per capita expenditures increased by \$36.70 in the transitional year. This was followed by a \$48.70 per capita downward trend in expenditures across the next two years, which left general government expenditures at their lowest level since 1993. In real dollar terms this is an increase of \$120,000 in 2001, followed by reduction of \$119,110 in 2002 and \$49,800 in 2003, for a total decline two-year decline of \$168,910 (Appendix D). To place the reduction in perspective, total per capita General Fund expenditures declined \$355,500 across the same periods

Revealing the source of the expenditure reduction, prior to consolidation administrative salaries in the sewer and water enterprise funds totaled \$32,090 for the three governments in 2000 (Table 4). However, the following year, the first of consolidated operations, these enterprise salaries dropped to \$1,090, while salaries in the clerk and treasurer's office increased. The increase in these two offices occurred despite a salary reduction following the elimination of the part-time Mineral Hill's combined clerk and treasurer employee. It appears that unlike the 2000, expenses for sewer and water administrative duties were recorded under the General Fund in 2001.

The same treasurer and clerk offices that handle general government operations, manage the billing, record keeping, and other administrative duties for the consolidated city's sewer and water enterprise activities. Allocations of labor time to cost centers reflect managerial decisions and service priorities, and these allocations must adhere to accounting principles outlined under the Government Accounting Standards Board. Each manager allocated City Hall labor differently than either of his successors. For example,

the current City Manager indicated “a-typical” time allocations reflecting various enterprise infrastructure projects under his management period. This period was the last one and a half years of the study.

Illustrating the impacts from the accounting shifts, total general government salaries dropped 61.8% between 2001 and 2003, declining from \$147,660 to \$56,660, a difference of \$91,320. At the same time, administrative salaries for the sewer and water enterprise funds increased from \$1,090 to \$45,420, a \$44,330 difference. If a one-to-one relationship between the enterprise salary increase and the general government salary decrease is assumed, just over one-half of the salary reductions in general government operations are accounted for. A pay grade reduction following the retirement of one treasurer in 2002 and the replacement with an assistant was an additional factor resulting in the reduction in general government salaries. Also, management, maintenance, janitorial expenses were reduced on other properties held by the city.

4.3.4 Employee Welfare

Employee Welfare expenditures include liability and health insurance, sick and holiday pay, retirements benefits, FICA, and Medicaid. The two-year period between 2001 and 2003 saw employee benefits decline \$175,350, resulting in their lowest level in both per capita and real dollars of any year in the study. Two explanations account for the decline. First, corresponding with the labor shift away from the General Fund, sewer and water funds recorded employee benefit increases from \$510 in 2001 to \$33,710 in 2003. Secondly, excess contributions to employee retirement benefits resulted in over funding. Consequently, contributions were reduced to reflect to actuarial projections.

4.4 Enterprise Salary and Employee Welfare Impacts

Table 5 illustrates the impact of the administrative salary shift from the General Fund to the sewer and water fund. The table adds the administrative salaries and benefits of the Iron River employees, which are accounted for in the sewer and water fund, to the total General Fund expenditures. Under this situation a cumulative decline of 9.7% in per total per capita General Fund Revenues across the five-year post consolidation reduces down to 5.0%, and a 14.9% drop in real dollars declines to 10.5%. This reduces the magnitude of expenditure savings; nonetheless municipal spending was still lower following consolidation.

Table 5: Enterprise Salaries and Employee Welfare Impact on Total General Fund Expenditures

	2000	2001	2002	2003	2004	2005
<i>Total Per Capita General Fund Expenditures</i>						
Without Enterprise Salaries	407.38	434.94	369.33	336.70	369.36	367.87
With Enterprise Salaries	419.57	435.42	392.42	360.87	394.87	398.57
<i>Annual Expenditure Change</i>						
% Without	N/A	6.77	-15.08	-8.84	9.70	-0.40
% With	N/A	3.78	-9.88	-8.04	9.42	0.94
<i>Cumulative Expenditure Change, 2000-05</i>						
% Without	N/A	6.77	-9.34	-17.35	-9.33	-9.70
% With	N/A	3.78	-6.47	-13.99	-5.89	-5.00
<i>Total General Fund Expenditures</i>						
Without Enterprise Salaries	1,381,409	1,457,922	1,223,595	1,102,354	1,194,866	1,175,722
With Enterprise Salaries	1,422,763	1,459,518	1,300,084	1,181,480	1,277,392	1,273,834
<i>Annual Expenditure Change</i>						
% Without	N/A	5.54	-16.07	-9.91	8.39	-1.60
% With	N/A	2.58	-10.92	-9.12	8.12	-0.28
<i>Cumulative Expenditure Change, 2000-05</i>						
% Without	N/A	5.54	-11.42	-20.20	-13.50	-14.89
% With	N/A	2.58	-8.62	-16.96	-10.22	-10.47

Source: Budgetary Schedule 2000 and Michigan Department of Treasury 2001-2005

4.5 Social Cost of Consolidation

Consolidation proposals are frequently contested because of the resulting change in the opportunity set of the community. Social interaction costs are a consequence of combining the different service level and quality demands of the fragmented communities into one new consolidated government. Residents in the new government encounter service standards that may, or may not, be reflective of their past demand. Some residents may benefit, as services that were previously unattainable are provided or improved. These same services may represent a cost to others who view them as unwanted or unnecessary.

Relative to the fragmented government structure, three instances of social costs emerge as a result of consolidation. A primary concern prior to consolidation, and a common complaint following consolidation, was snowplowing. Some citizens felt the consolidation resulted in a snow removal pattern that improved the quality of the new territory at the expense of the old. However, the complaints were not specific to one community, but were equally registered across the three governments. Second, residents of the City of Stambaugh exchanged their bagged garbage system for full-scale municipal garbage collection. Municipal garbage was previously provided to residents of the City of Iron River and the Village of Mineral Hills. Stambaugh residents purchased 30-gallon garbage bags, and when full placed out for disposal. Following consolidation a flat rate disposal fee was added onto the water bill for all residents of the new city. Complaints registered from Stambaugh residents that the new system was unfair, because residents with less need for the service subsidized those with large quantities of garbage. Viewed

in transactional manner, those who desired municipal refuse prior to the consolidation attained the benefit.

Finally, an unanticipated concern arose when Stambaugh residents were required to pay non-residential burial rates and lot prices in the Stambaugh Cemetery Association. As the name implies, the City of Stambaugh was a founding member of The Association, but upon consolidation lost its legal status as a member. The City of Stambaugh as a legal entity ceased to exist. Residents of the consolidated government gained access to the cemetery following a \$10,000 “in-kind” contribution, yet the non-resident rate still applies to residents of Stambaugh.

4.6 Economic Development and Stability

Although not a prime factor driving consolidation, economic enhancement was thought by consolidation proponents to be a byproduct of the merger. Economically, the small size of each community made any business locating or maintaining its presence within the boundaries important for job creation, as well as the stabilization and growth of the tax base. Consolidation eliminated competition between the governments, and permitted the development of a cohesive economic growth strategy. For example, a customer service contact center was located in a vacant facility in the former downtown of Stambaugh to the benefit of the entire community.

The growth in taxable value is displayed in Table 6 for the three communities before and after consolidation. The annual growth rate in taxable value is held to the lesser of inflation or five percent, excluding new or previously exempt property. Adjusted for inflation, the combined growth in taxable value for the four-year period

following consolidation was nearly four percentage points lower than the four years prior to consolidation. To date, the consolidation has not resulted in an expansion of the tax base.

Table 6: Growth in Real Taxable Value for Consolidated Units (Thousand Dollars)

<i>Consolidated Units</i>	1996	2000	2001	2005	% Change	
					96-00	01-05
Iron River	19,872	22,666	31,343	33,480	14.06	6.82
Mineral Hills	943	1,146	N/a	N/a	21.57	N/a
Stambaugh	7,621	7,962	N/a	N/a	4.47	N/a
Combined Total	28,435	31,774	31,343	33,480	11.74	6.82

Source: Michigan Department of Treasury

Proponents of the Iron River consolidation also believed that a drop in millage rates would follow the reduction in general government operations. Total millage rates for the three communities in a pre and post consolidation setting are shown in Table 7, where one mill is equal to one-tenth of one cent. Residents of the City of Iron River paid relatively the same rate pre and post consolidation, while residents of the City of Stambaugh and Village of Mineral Hills witnessed an increase in their total tax rate.

Table 7: Total Millage Rates for Consolidated Units

<i>Consolidated Units</i>	1995	2000	2001	2002	2003	2004	2005
Iron River	21.83	21.18	21.25	21.24	21.61	21.49	21.37
Stambaugh	20.00	21.14	N/A	N/A	N/A	N/A	N/A
Mineral Hills	20.00	19.13	N/A	N/A	N/A	N/A	N/A

Source: Michigan Department of Treasury

4.7 Review

The analysis found that following the consolidation of the three municipalities government service expenditures were reduced. Some of the expenditure reductions were

the result of consolidation cost savings, and others were not. Consolidation savings were primarily driven by fixed inputs being spread across greater populations following the removal of duplicative personnel and facilities. On the other hand, some expenditure reductions were the result of service and management choices that could have been made irrespective of consolidation, such as the alteration of contracts. Although these contractual adjustments changed the cost structure of the government, they are not directly attributable to the consolidation.

The decline in police expenditures was not a direct result of consolidation *per se*, but a derivative of the merging. Contractual payments ended when the City of Stambaugh joined the production unit. Although marginal costs were surpassed in the contract, fixed costs were not analyzed. The consolidated Iron River remained under a volunteer fire department, but was able to reduce service costs when protection formerly provided by two authorities was reduced to one. These single-purposes service arrangements can be renegotiated irrespective of consolidation proceedings.

Consulting expenses in the first year surpassed the salary reductions savings from consolidating the manager's office. Driven primarily by salary and employee welfare reduction in general government operations, the subsequent two years witnessed total expenditure levels shrinking to their pre consolidation lows. The public works department benefited both from quality improvement and cost saving expenditure reductions. Consolidation permitted the resources for specialization, and multiple garages were condensed into one.

Limitations exist with this type of cost savings analysis. First, it does not account for the possibility that exogenous factors affected expenditures following the

consolidation. Without attempting to control for other factors that may have led to the decline in per capita expenditures the results may be illusory. Second, the limited time period post consolidation may not be indicative of the long run cost structure. For example, retirements will result in the elimination of an assistant clerk and treasurer.

CHAPTER FIVE- COST SAVINGS VALIDATION: A QUASI-EXPERIMENTAL TECHNIQUE

An analysis of cost savings is of obvious importance to elected officials and taxpayers involved in a consolidation. Parties need to know whether the new community saves money relative to the fragmented governance structure. Cost savings represent the benefit side of consolidation, but arrive with higher political costs and less autonomy in the larger governmental entity.

However, there is a problem with this type of reflexive analysis; cost savings or downward trends in costs may be the result of other factors in the region or economy, and not due to consolidation. The correlation between consolidation and cost savings may be illusory, leading other interested parties to the wrong conclusion about the true nature of the cause and effect relationship. Therefore, a second type of analysis, a quasi-experimental technique, is used to try and determine if in fact consolidation is the root cause of cost savings. The quasi-experimental technique compares several similar, but uninvolved communities to the consolidated government. In doing so, one may be able to identify if in fact the cost savings attributed to the consolidated unit are systematically different from the comparison or non consolidated communities.

The quasi-experimental analysis applied below proceeds by comparing the pre and post consolidation cost structure of the consolidated governments with a set of control cities in the Upper Peninsula and northern portions of Michigan. In undertaking this analysis, a key question is how the treatment and control groups will be structured. As the literature suggested, in forming the treatment group, a combine government will

be constructed for the pre consolidation period, aggregating the data from the separately run Cities of Iron River and Stambaugh, and the Village of Mineral Hills.

In using a quasi-experimental approach, the objective in forming a control group is to match the combined characteristics of communities to be consolidated with a number of close matches on the basis of government structure and economic, and social characteristics. By matching these characteristics as closely as possible, the method allows the analysis to examine the cost structure of the consolidated governments with the cost structure of other communities, controlling for other factors that could produce differences.

The quasi-experimental technique manages the problem of using municipal expenditures as a determinant of cost structure, by using average expenditures of a *number* of local governments. Any change in service level or quantity made by one member of the control is minimized when factored into group as a whole. Reed and Rogers (2000) note that the selection of control units involves the tradeoff between the closeness of matches and number of units. They argue that larger control groups diminish the influence of an exogenous shock on the control units, but allow for more distance matches. For ease of reference, the aggregated totals of the three governments prior to consolidation, the treatment group, will be referred to as the *constructed* Iron River in the analysis below.

5.1 Selection of Control Units

As previously mentioned, the first problem encountered with a study of this nature is to select the appropriate cities to serve as the control group. Michigan's Upper

Peninsula is home to a total of 24 possible control cities, with an additional 24 located in the northern region of the Lower Peninsula. From these units, two control groups were formed, a primary control group, and an extended control group. Given the small size of the constructed Iron River, the first requirement for selection in either control group was a city population plus or minus 1,000 of the consolidated cities. This requirement left four cities in the primary control group and an additional five in the extended control group for a total of nine.¹² The primary group more closely matches the desired characteristics to the constructed Iron River by consisting of only Upper Peninsula cities. On the other hand, the extended group augments the primary group by including additional cities from northern Michigan, which lessens the social and economic fit with the constructed Iron River.

Table 8, presents selected demographic information comparing the consolidated units with the studies primary control. The constructed Iron River lost 43% of its population between 1960 and 2000, whereas the primary control lost 21%. More recent examination of pre consolidation population growth, 1990 through 2000, witnessed mixed population growth for individual cities involved. During this same time period the constructed Iron River lost 5% of its population and the primary control lost 2%. Other factors that drive municipal expenditure, such as poverty rates, income, age of housing, and racial composition are shown for comparability purposes, and are provided in Appendix F.

¹² Due to data limitations one city in each group that met the population requirement was not included.

Table 8: Population Change in Consolidated and Primary Control Units

	<u>Population</u>			<u>% Change</u>	
	1960	1990	2000	1960-00	1990-00
Iron River	3,754	2,095	1,929	(48.61)	(7.92)
Mineral Hills	311	200	214	(31.19)	7.00
Stambaugh	1,876	1,281	1,243	(33.74)	(2.97)
Combined	5,941	3,576	3,386	(43.01)	(5.31)
Hancock	5,022	4,547	4,323	(13.92)	(4.93)
Manistique	4,875	3,456	3,583	(29.11)	3.67
Munising	4,228	2,783	2,539	(39.95)	(8.77)
Norway	3,171	2,910	2,959	(6.69)	1.68
Control Avg.	4,324	3,424	3,351	(20.81)	(2.13)

Source: U.S. Bureau of Census 2000 and Michigan Information Center

Economic data do not exist at the municipal level for units the size of those contained in this study. However, for illustrative purposes, Table 9 is included to highlight recent employment trends utilizing the U.S. Census Bureau's Economic Zip Code Business data for the years 1994 through 2003. The Zip Code data for each city encompass the entire municipal boundaries, but in some instances extend out to neighboring townships. For both pre and post consolidation periods, Iron River's Zip Code data included Mineral Hills, whereas post consolidation it appears that Iron River gained portions of the Stambaugh Zip Code.

For example, the City of Iron River gained 24 establishments during the 1994 through 2003 time period, accounting for 221 jobs. But in examining single years between 2001 and 2002 Stambaugh's loss of 12 establishments corresponded with Iron River gaining 13. Although a one to one relationship can not be established, this in part could explain the significant gain in employment in Iron River's zip-code, and the decline in the Stamabuagh's. For the primary group, excluding Manistique, during the time period 1994 and 2003, the control units gained several hundred jobs.

Table 9: Total Number of Establishments and Employees in Consolidated and Primary Control Units

	# of Establishments			Change	# of Employees			Change
	1994	1998	2003	1994-2003	1994	1998	2003	1994-2003
Iron River	213	222	237	24	1615	1749 ¹³	1836	221
Stambaugh	18	29	13	(5)	103	176	56	(47)
Hancock	186	192	183	(3)	1942	2248	2252	310
Manistique	207	215	225	18	1838	1702	1723	(115)
Munising	159	169	167	8	1575	1792	1803	228
Norway	96	101	112	16	869	823	1407	538

Source: U.S. Bureau of Census Zip Code Business Patterns 1994, 1998, 2003

Consistent as to what is expected in rural America today, these areas tend to rely heavily on health care, education facilities, and manufacturing plants as the primary employer. Hospital facilities were the largest, or tied for the largest, employer for Iron River at 100 to 249 employees as well as for the primary control units of Hancock at 250 to 499 employees, and Manistique at 100 to 249 employees for 2003. Hancock also had a junior college that employed between 250 and 499 employees for 2003. The two other control units Munising and Norway each had paper mills as their largest employer. For Munising the paper mill employed between 250 and 499 employees, whereas Norway's employed between 500 and 999.

5.2 Methods and Data

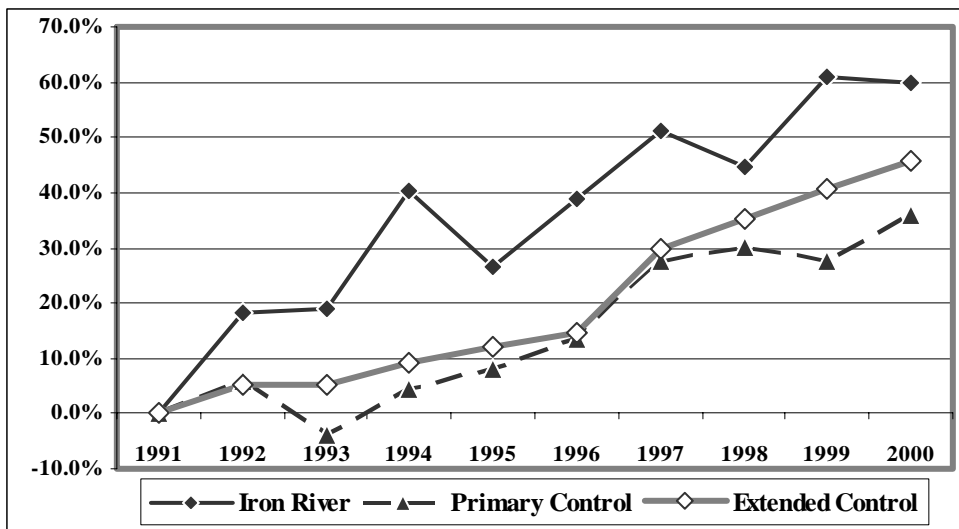
Employing the method described in Rogers and Marshment (2000) as a guide, the control groups average per capita expenditures will in essence act to simulate what would have happened to the three governmental units had they not been consolidated. Using an annual impact statistic generated by measuring the average expenditures of the control group against the consolidated units, two separate analyses will be performed. The first

¹³ Indicates use of 1997 employee level data.

analysis will determine if an observed difference in cost structure exists prior to consolidation between the fragmented treatment and the singular control communities. The second examination will observe the impacts on local government costs in moving from a fragmented to a consolidated structure.

Prior to consolidation it is theorized that the cost structure of the fragmented cities and the comparisons groups will not to act in unison. Fragmentation produces duplicative services and personnel costs, and is less likely to achieve economies of scale. Thus, prior to consolidation the annual growth rates of municipal costs in the fragmented local governments should exceed the unified control governments. Visually, Figure 2 depicts this expenditure trend across the pre consolidation time period, 1991 through 2000.

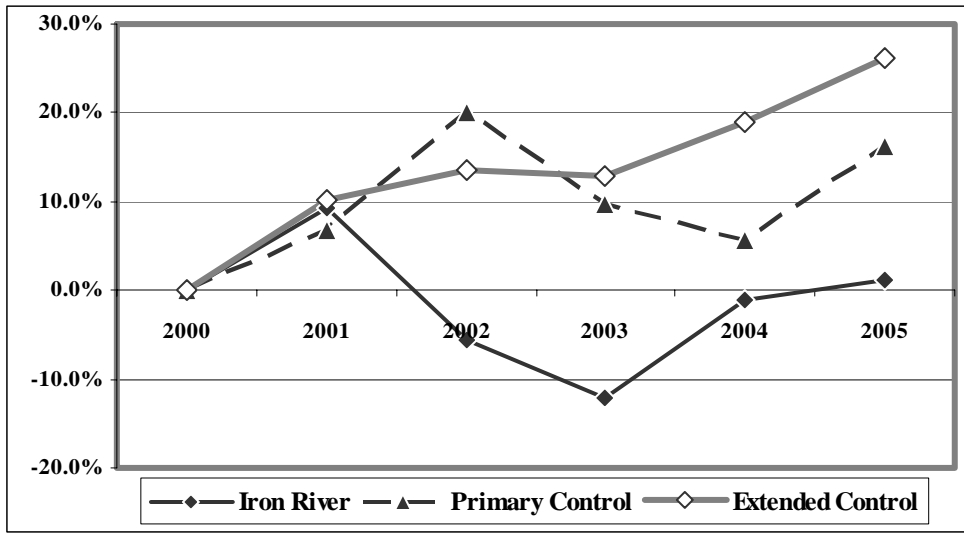
Figure 2: Pre Consolidation Growth in Total General Fund Per Capita Expenditures for Consolidated and Control Units



Post consolidation, however, it is expected that cost structure of the City of Iron River will shift downward, eventually converging and replicating the control groups.

The transition period associated with the merger may initially distort Iron Rivers underlying costs structure. Figure 3 compares the growth in total General Fund per capita expenditures between Iron River and control units following consolidation.

Figure 3: Post Consolidation Growth in Total General Fund Per Capita Expenditures for Consolidated and Control Units



The time period covered by this quasi-experiment is 1991 through 2005, with the first period reflecting the consolidated or unified government is 2001. This presents nine data points prior to consolidation and five points post consolidation. The testing is done on total General Fund per capita expenditures (Table 10). The analysis itself is not concerned with expenditure levels per se, but with the annual growth in these expenditures.

Table 10: Per Capita General Fund Expenditures for Iron River and Control Units

	<u>Pre</u>		<u>Post-Consolidation</u>				<u>% Chg.</u>	<u>% Chg.</u>	
	1991	2000	2001	2002	2003	2004	2005	91-2000	00-2005
<i>Iron River</i>									
Total Exp.	301.97	482.42	527.42	455.68	423.86	477.20	488.50	59.8	1.3
<i>UP Control</i>									
Total Exp.	331.00	449.65	479.79	539.54	493.08	475.32	522.83	35.8	16.3
<i>Extended Control</i>									
Total Exp.	338.38	492.78	543.10	559.10	556.40	586.35	621.90	45.6	26.2

Source: Michigan Department of Treasury

5.3 Results and Interpretation

To evaluate the outcomes from the impact statistics described above, a common difference in means testing was utilized assuming normality and equal variance between the treatment and the control units. Using 1991 as the base year, average growth rates of the constructed Iron River were evaluated against the study’s controls in three separate time periods prior to consolidation. In all three pre consolidation periods examined, the constructed Iron River had a statistically significant higher mean growth rate in total per capita expenditures over both the primary and extended controls. Spanning the entire nine-year pre consolidation period, 1991 through 2000, the constructed Iron Rivers mean growth rate was 23.3% higher than the primary control, and 17.9% higher than the extended control (Table 11). In this instance, the three fragmented municipalities exhibit a higher cost structure than comparably sized, non-fragmented cities.

Post consolidation, accumulated growth rates in per capita expenditures were calculated using base year 2000. Expenditure patterns of the consolidated Iron River should either mirror or converge to the study’s control groups, provided they are operating on the same cost curve. Examination in the post consolidation time periods begins with the initial one-year growth in per capita expenditures, adding subsequent

years until the entire time span post consolidation is covered. Providing the results in this fashion allows trends in per capita expenditures to be captured.

Beginning with the year immediately following consolidation, the newly consolidated City of Iron River had total per capita expenditures 2.6% higher than the primary control, but was 0.9% lower than the extended group. The addition of one-year exhausts the immediate transitional costs in moving to the consolidated government, and incorporates the reduction in salaries, leading expenditure growth in the controls to sharply outpace the consolidated Iron River.

Table 11: Estimated Consolidation Impact on Total General Fund Per Capita Expenditures.

Accumulated Growth		Primary Control (n=4)				Extended Control (n=9)			
		Diff.	S.E.	t-Stat	P-Value	Diff.	S.E.	t-Stat	P-Value
<i>Pre-Consolidation</i>									
3 Yr.	1991-1994	0.236	0.078	3.015	0.039*	0.192	0.073	2.613	0.059
6 Yr.	1991-1997	0.230	0.069	3.327	0.008**	0.196	0.066	2.990	0.014*
9 Yr.	1991-2000	0.233	0.071	3.277	0.005**	0.179	0.076	2.376	0.030*
<i>Post-Consolidation</i>									
1 Yr.	2000-2001	0.026	n/a	n/a	n/a	-0.009	n/a	n/a	n/a
2 Yr.	2000-2002	-0.115	0.100	-1.148	0.370	-0.099	0.076	-1.306	0.322
3 Yr.	2000-2003	-0.149	0.075	-1.982	0.119	-0.150	0.064	-2.330	0.080
4 Yr.	2000-2004	-0.129	0.056	-2.311	0.060	-0.162	0.049	-3.336	0.016*
5 Yr.	2000-2005	-0.133	0.045	-2.941	0.019*	-0.180	0.046	-3.942	0.004**

* Significant at <.05 level

**Significant at <.01 level

Across both control groups, the difference in mean continues to be negative for the remaining three periods. At its' highest point, the primary control's average growth rate exceeds Iron River by 14.9% between 2000 and 2003. On the other hand, the average pace of per capita expenditures in the extended control exceeds Iron River's by a wider margin each year post consolidation. Examining the entire five-year post-treatment

period, 2000-2005, the unified Iron Rivers expenditures were a significant 13.3% under the primary control and 18.0% under the extended control.

5.4 Limitations of Quasi-Experimental Technique

Two cautionary points must be applied to these results. The first is in relation to the use of the quasi-experimental technique. Concerns persist about the ability of the control groups to forecast the counterfactual for the consolidated communities (Rogers and Marshment, 2004). For example, if consolidation had not occurred, there is no guarantee that fragmented cities would have continued to grow at a higher rate than the control groups. Further, the small number of cities available to serve as control groups, along with their ‘closeness’ of matches is not addressed within this study through the use of nonparametric methods. However, provided that all cities within the specified population parameter and geographical range were chosen, matching techniques would have been of little importance.

Second, the limited time period following consolidation is not reflective of the long run cost structure of the consolidated unit. The long run cost curve, for example, will reflect the elimination of two additional positions, the deputy clerk and deputy treasurer, upon retirement of current staff. Lastly, as was demonstrated in the consolidated Iron River cost structure analysis, accounting transfers across funds send false signals relative to expenditure levels. Establishing the link between shifts in expenditure across funds in a single government is delicate, but across multiple units such as those serving as controls, the task becomes impractical.

CONCLUDING OBSERVATIONS

The decision to consolidate three rural municipalities in Michigan's Upper Peninsula resulted in cost savings over and above any other governance structure available to the communities. The fragmented structure resulted in duplicative administrative requirements and personnel in City Hall that could only be removed through consolidation. Additional savings followed the consolidation, but were not a direct consequence as such. Service contracts were adjusted downwards, both amongst the consolidating parties themselves, and between the communities and private agencies. The cost savings were verified using a comparison of like-sized communities.

Efficiency enhancing statements relative to consolidation must be made in context of service quality and level. The consolidation did not result in the lowering of any service level, but *was* attributable for enhancing service quality, as well as the provision of previously unattainable services. These adjustments resulted in benefits to some, but appeared as costs to others receiving an undesired change in their service package following consolidation. These costs do not show up in any formal cost function.

Consolidations are exceedingly rare in the United States because they are fundamentally a political process. In this manner, Iron River can be seen as a case study in how to proceed in a consolidation effort. Cooperation previously existed in the most visible and politically sensitive services. Although unintended at the time, the gradual process of combining services, one at time, built a trustful relationship between parties to the consolidation. Even the initial defeat of the consolidation did not derail the process. The remaining residents and government officials voiced a renewed energy and interest

to reduce government cost and enhance economic viability of the communities. The consolidation process could have been more difficult without the cooperation of many local government officials, which may have been assisted by job-security in the new government. This is not to say there were no vocal opponents to consolidation within the three communities, there were, and some surely remain today.

The study does not purport to be applicable to all consolidation proposals. Each consolidation has a unique circumstance and driving factor behind the effort. The consolidation push in large urban areas is primarily driven by the desire for equity in government services and access to economic resources. This was not the case in Iron River. However, there is enough justification in the findings to extend the results to other small rural communities throughout the United States. There is no assurance of cost savings, however. Potential savings resulting from consolidation must be weighed against all other factors that are likely to change in the consolidated unit. These changes are case specific.

Analysis is needed in the future to bring the long-run cost curve to the forefront. The elimination of two additional positions is foreseen by current managerial objectives, but is not an inherent fact of consolidation. Accurately gauging workload requirements is a judgment call, and a change in managerial personnel may bring about a different vision. Alternatively, there could be long-range consolidation costs not yet identified. Additional attention should be paid to economic benefits of consolidation. An analysis of this nature could determine if economic growth occurred evenly across the new city, or were spread disproportionately across old political boundaries.

APPENDICES

APPENDIX A

Consolidation Legal Process

In Michigan, the legal basis for the consolidation of two or more cities and villages is derived from Home Rule City Act (279 of 1909), Home Rule Village Act (278 of 1909) and the State Boundary Commission Act (191 of 1968). Steered throughout the process by the Boundary Commission, municipal consolidation is essentially broken down into two separate steps, each requiring multiple criteria to be met.

The first step proceeds under the State Boundary Commission Act requiring: (1) a submitted petition proposing the incorporation signed by at least 5 % of population of the territory affected by the new incorporation; (2) a review by the Boundary Commission (including a public hearing) of the areas to incorporate; considering factors of population, population density, land area and uses, past and probable future urban growth, present cost and adequacy of governmental services, anticipated future needs for services, alternative courses of action on the cost and adequacy of services, and impact on tax rates; and (3) approval of the incorporation by the Commission, subject to a petition for a referendum of at least 5 % of the electorate residing in the areas to be incorporated. If no petition for a referendum is put forward, or if a majority of the electorate in the areas to be incorporated voting collectively approve the incorporation the process continues to step two, otherwise the proceeding are halted and no further action takes place.

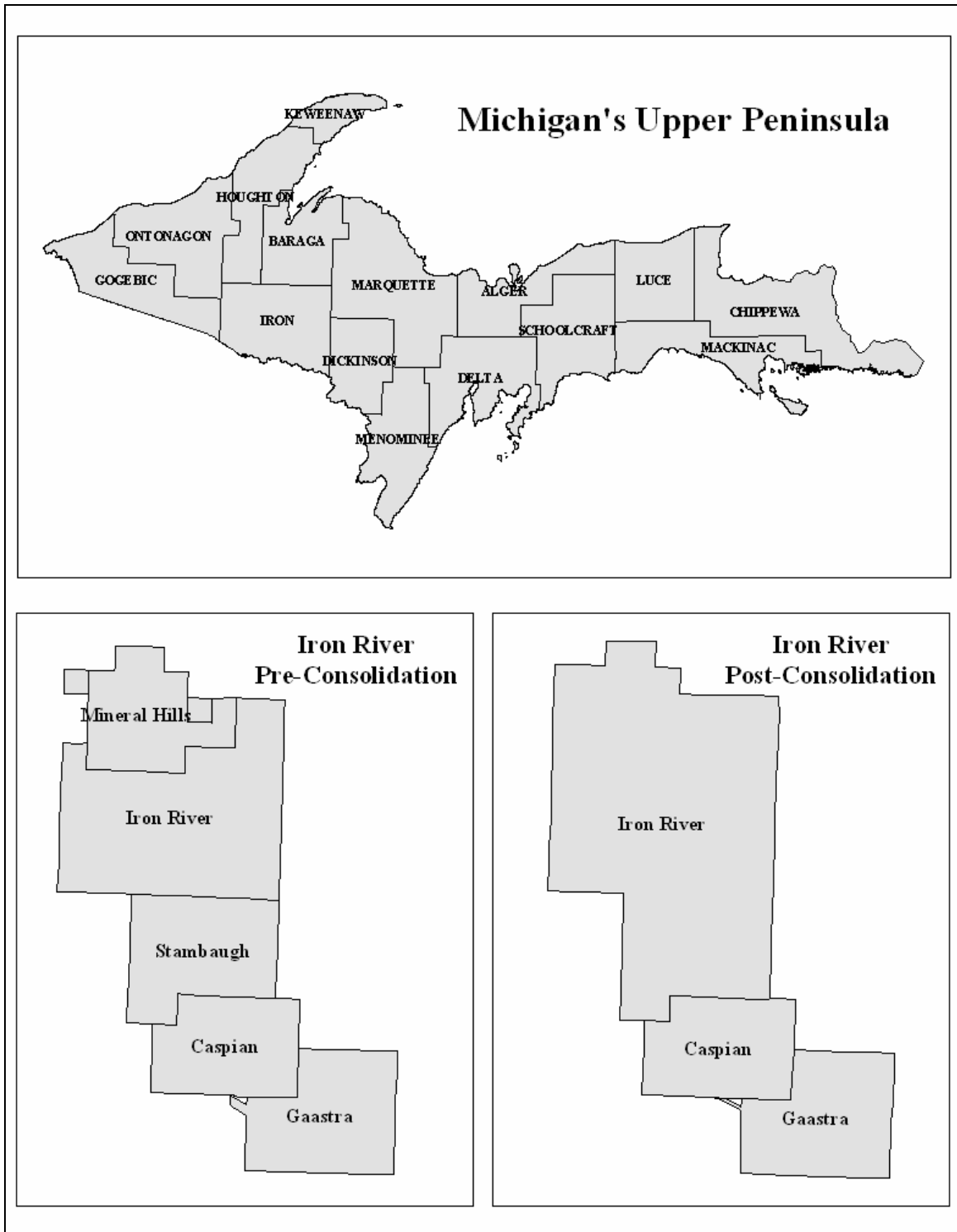
Step two begins upon final approval from the Boundary Commission to write the charter pursuant to the Home Rule Village and City Acts (278 and 279 of 1909). A Charter Commission is formed consisting of members either appointed by the Boundary

Commission, or from citizens elected at large from the areas to be incorporated.

Completion of the draft charter is submitted to the governor for final approval, and placed before the registered voters within each jurisdiction. Attainment of consolidation requires a simple majority approval within each area up for the consolidation. If rejected by any municipality, the entire consolidation effort fails.

APPENDIX B

Figure A: Regional Overview and Pre and Post Consolidated Iron River Map



APPENDIX C

Table A: Detailed Per Capita General Fund Revenues and Expenditures for Consolidated Units

	<u>Pre-Consolidation</u>										<u>Post-Consolidation</u>					<u>% Chg</u>	
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	91-00	00-05
<i>Consolidated Iron River</i>																	
Property Taxes	161	158	161	159	158	160	158	169	168	169	168	186	196	179	183	4.9	8.1
Total Revenue	341	360	354	378	399	450	462	455	482	502	654	462	441	431	414	47.3	(17.5)
General Government	74	77	68	129	85	96	103	103	101	82	119	84	70	73	81	9.9	(0.4)
Police	49	55	53	61	64	73	77	80	84	82	57	58	57	59	60	66.0	(26.2)
Fire	8	9	8	9	10	12	10	11	10	10	12	5	5	5	5	30.6	(55.7)
Public Works	78	101	95	109	93	90	115	95	105	101	113	126	121	108	87	29.8	(14.4)
Sanitation	13	3	1	14	27	21	21	29	21	26	33	35	36.0	35	21.6	97.8	(17.2)
Recreation	14	3	33	8	13	8	10	8	7	9	11	5	10	12	14	(39.7)	66.2
Employee Welfare	78	103	86	80	85	98	90	86	112	124	124	91	74	112	121	58.0	(2.5)
Total Expenditures	302	349	343	396	350	377	404	382	419	407	435	369	337	369	368	34.9	(9.7)
Population	3,506	3,493	3,481	3,468	3,455	3,442	3,429	3,417	3,404	3,391	3,352	3,313	3,274	3,235	3,196	(3.3)	(5.8)
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	% Chg.						
											00-05						
<i>Iron River</i>																	
Property Taxes	181	181	189	187	187	191	189	207	203	205	13.3						
Total Revenue	368	399	385	442	479	548	579	563	601	585	59.0						
General Government	89	95	73	178	97	121	135	136	134	97	9.6						
Police	49	60	55	64	69	84	100	106	113	109	121.6						
Fire	9	9	10	7	6	12	7	9	8	8	(9.2)						
Public Works	64	74	76	125	106	100	104	93	129	121	88.9						
Sanitation	2	0	0	22	45	35	34	34	35	44	2,215.9						
Recreation	13	1	10	9	19	10	13	10	8	11	(14.5)						
Employee Welfare	83	130	100	85	95	123	111	105	120	147	76.0						
Total Expenditures	307	370	323	469	393	449	470	458	512	493	60.5						
Population	2,078	2,062	2,045	2,029	2,012	1,995	1,979	1,962	1,946	1,929	(7.2)						

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	<u>% Chg.</u> <u>91-00</u>
<i>Mineral Hills</i>											
Property Taxes	108	111	103	98	90	96	94	96	99	102	(5.8)
Total Revenue	394	488	316	339	364	441	339	403	395	460	16.6
General Government	83	101	67	53	88	61	62	61	64	83	0.1
Police	-	-	-	-	-	-	-	-	-	-	-
Fire	-	-	-	-	-	-	-	-	-	-	-
Public Works	242	245	244	232	199	200	257	191	135	179	(26.0)
Sanitation	-	-	-	-	-	-	-	-	-	-	-
Recreation	-	-	-	-	-	-	-	-	-	-	-
Employee Welfare	95	104	139	94	87	95	33	26	83	109	14.2
Total Expenditures	420	460	470	405	408	395	397	317	327	439	4.5
Population	201	203	204	206	207	208	210	211	213	214	6.3
<i>Stambaugh</i>											
Property Taxes	136	128	124	123	123	121	121	123	125	125	(8.3)
Total Revenue	285	273	310	280	276	295	297	294	311	380	33.1
General Government	49	44	60	61	63	63	59	58	56	57	18.3
Police	58	55	59	65	65	68	53	52	53	54	(6.4)
Fire	7	10	7	14	17	16	16	15	15	15	119.2
Public Works	74	121	102	62	54	54	108	82	62	57	(23.2)
Sanitation	34	9	3	4	2	2	3	27	2	2	(93.3)
Recreation	19	7	78	8	6	5	6	6	8	7	(65.6)
Employee Welfare	68	59	53	70	70	59	66	66	103	92	35.7
Total Expenditures	274	296	358	279	276	265	308	280	298	281	2.7
Population	1,226	1,229	1,231	1,234	1,236	1,238	1,241	1,243	1,246	1,248	1.8

Source: Michigan Department of Treasury 1991-2000 and 2001-2005

APPENDIX D

Table B: Expenditures by Municipal Function for Iron River (Thousand dollars)

	<u>Pre</u>		<u>Post-Consolidation</u>				<u>% Chg</u>		
	1991	2000	2001	2002	2003	2004	2005	91-00	00-05
<i>Consolidated Iron River</i>									
Gen Government (\$)	261.0	277.3	397.3	278.2	228.4	236.8	260.3	6.3	(6.1)
Annual Change (\$)		-	120.0	(119.1)	(49.8)	8.4	23.5	-	-
Annual Change (%)		-	43.3	(30.0)	(17.9)	3.7	9.9	-	-
Police	172.7	277.3	189.6	191.3	187.5	189.9	192.7	60.6	(30.5)
		-	(87.7)	1.7	(3.8)	2.4	2.9	-	-
		-	(31.6)	0.9	(2.0)	1.3	1.5	-	-
Fire	27.3	34.5	40.7	16.5	15.2	15.2	14.4	26.3	(58.2)
		-	6.2	(24.2)	(1.3)	(0.0)	(0.8)	-	-
		-	18.1	(59.4)	(7.8)	(0.0)	(5.4)	-	-
Public Works	273.0	342.9	377.8	418.8	396.2	350.8	276.5	25.6	(19.4)
		-	34.9	41.0	(22.6)	(45.3)	(74.4)	-	-
		-	10.2	10.9	(5.4)	(11.4)	(21.2)	-	-
Recreation	49.5	28.9	35.7	16.7	33.6	38.5	45.3	(41.7)	56.7
		-	6.8	(19.0)	16.9	4.9	6.8	-	-
		-	23.5	(53.3)	101.5	14.7	17.6	-	-
Employee Welfare	275.2	420.6	416.8	302.2	241.5	363.6	386.5	52.8	(8.1)
		-	(3.7)	(114.6)	(60.7)	122.1	22.9	-	-
		-	(0.9)	(27.5)	(20.1)	50.6	6.3	-	-
Total Expenditures	1,058.8	1,381.4	1,457.9	1,223.6	1,102.4	1,194.9	1,175.7	30.5	(14.9)
		-	76.5	(234.3)	(121.2)	92.5	(19.1)	-	-
		-	5.5	(16.1)	(9.9)	8.4	(1.6)	-	-

Source: Michigan Department of Treasury 1991-2000 and 2001-2005

APPENDIX E

**Table C: Employee Salaries by Municipal Function for Consolidated Units¹
(Hundred dollars)**

General Fund Activities	2000				2001	2002	2003	2004	2005
	IR	STMB	MH	Total					
<i>General Government</i>									
City Manager	390.1	136.4	-	526.5	376.2	226.1	183.7	269.1	227.4
City Assessor	94.1	44.1	-	138.2	-	-	-	60.1	-
City Clerk	261.2	122.4	59.1	442.8	457.6	172.6	155.2	163.7	116.8
City Treasurer	239.6	92.0	15.6	347.3	427.7	193.9	121.1	181.0	130.9
City Hall	76.0	4.2	-	80.2	132.0	102.4	60.0	52.3	76.4
Other	18.6	51.1	19.6	89.3	83.0	192.7	43.5	51.5	131.9
Total Gen Government	1,079.7	450.3	94.3	1,624.3	1,476.6	887.6	563.4	777.7	683.4
Police Department	1,743.6	-	-	1,743.6	1,652.7	1,758.4	1,741.1	1,741.7	1,708.0
Fire Department	-	-	-	-	-	-	-	-	-
<i>Department of Public Works</i>									
Public Works	310.0	42.2	168.9	521.1	681.7	972.6	1,078.9	1,007.6	636.0
Sanitation and Waste	13.0	25.3	-	38.4	58.5	20.6	0.3	29.8	126.8
Other	-	4.2	-	4.2	34.8	-	-	21.1	73.8
Total Dept. Public Works	323.1	71.8	168.9	563.7	775.1	993.2	1,079.2	1,058.5	836.6
Community Recreation	121.8	54.9	-	176.7	160.8	-	133.8	120.4	189.6
Total Salaries	3,268.1	576.9	263.2	4,108.2	4,065.2	3,639.2	3,517.4	3,698.3	3,417.6
Employee Welfare	2,967.1	869.1	224.0	4,060.3	4,168.5	3,022.0	2,415.0	3,636.4	3,865.4
<i>Enterprise Fund Activities</i>									
Sewer Fund-Admin Salaries	-	45.6	-	45.6	-	220.4	217.4	206.7	224.0
Water Fund-Admin Salaries	165.5	101.3	8.4	275.3	10.9	242.4	236.8	240.8	249.3
Total Salaries	165.5	146.9	8.4	320.9	10.9	462.9	454.2	447.5	473.3
Employee Welfare	42.9	47.5	2.2	92.7	5.1	302.0	337.1	377.7	507.8
General Fund + Enterprise Funds									
Total Salaries	3,433.6	723.9	271.7	4,429.1	4,076.1	4,102.0	3,971.6	4,145.8	3,890.9
Employee Welfare	3,010.1	916.7	226.2	4,153.0	4,173.6	3,324.0	2,752.1	4,014.2	4,373.3

Source: Budgetary Schedule 2000 and Michigan Department of Treasury 2001-2005

¹Salary and employee . data for the year 2000 is taken from an un-audited budgetary schedule. Totals do not match employee welfare used for calculations of total General Fund expenditures used throughout the analysis. The analysis relies on sanctioned reports from Michigan Department of Treasury. The difference between the two is \$14,570.

APPENDIX F

Table D: Selected Demographic Information for Consolidated and Primary Control Units

	<u>% Indiv.</u> Poverty	<u>Per</u> <u>Capita</u> P.I.	<u>%</u> <u>Housing</u> < 1960	<u>%</u> Caucasian
Iron River	11.1	15,728	83.8	95.3
Mineral Hills	14.0	12,487	29.0	96.7
Stambaugh	13.2	15,890	77.1	95.7
Combined	12.1	15,583	78.3	95.6
Hancock	13.0	16,669	68.0	96.0
Manistique	14.1	14,986	70.2	87.0
Munising	11.0	19,779	67.9	93.7
Norway	10.9	17,681	68.5	97.5
Control Avg.	12.4	17,032	68.6	93.5

Source: U.S. Bureau of Census 2000

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