

The Economic Impact of Toledo Community Foundation, Inc.

Oleg A. Smirnov, Ph.D.

June 30, 2020



Executive Summary

For nearly fifty years Toledo Community Foundation (TCF) has been a visible landmark in the economic and community-engagement landscape of the Toledo region. Many activities sponsored by TCF generate positive long-term consequences in the community, contribute to the provision of services to local residents, and foster public infrastructure development. TCF's grantmaking is diversified across different activities, strategies, tools, and opportunities. Numerous aspects of the past and current activities of TCF have contributed to a unique impact on the local economy.

Using historical and the most recently available data on the regional economy and Toledo Community Foundation's grantmaking and other community-engagement activities, the study seeks to quantify the role of TCF in the community's economic performance by analyzing the dynamics of its grantmaking and estimating economic impact of TCF in the region. The report provides an outline of the historic performance of TCF's grantmaking and how it intertwines with the Toledo region's economy. This study overviews the multifaceted engagement of TCF with the community involving a broad range of attributes pivotal for its long-term goals of making Toledo a better place to live. These activities have been shown to boost the overall economic output, stimulate gainful employment, and contribute to shifting the composition of the local economy towards faster-growing industries with above-average paying jobs.

The economic analysis of the historical performance, current trends, and strategies of TCF completed in this report conclude with the following key findings:

- The dynamics of grantmaking by TCF during 2001–2018 surpasses that of the Toledo region's economic output measured by Gross Domestic Product (GDP) with growth rates of TCF's grantmaking exceeding those of Toledo's GDP by the ratio of 2.65 to 1; in other words, TCF's grantmaking is growing nearly three times faster than the local economy;
- The allocation of TCF grants during various phases of the business cycle suggests that TCF's independent grantmaking and consistent pursuit of its long-term goals achieves considerable anti-cyclical, smoothing effect on the economy when the flow of funds in the community in good times and bad times is independent of the increase of TCF's resources;
- The rapid increase of TCF asset base serves as a gradually increasing buffer against future economic downturns and a key indicator of economic sustainability of TCF programs;
- The total economic impact of the contribution of Toledo Community Foundation to the regional Gross Domestic Product in 2018 is \$60.4 million;
- TCF activities contributed to creating 454.6 full-time equivalent jobs in Toledo's regional economy;

- The average productivity of jobs created is estimated to be at \$133 thousand per year, which exceeds the current productivity in the region of \$95 thousand; most of the newly created jobs are in faster growing industries, thus contributing to making our regional economy more productive and prosperous.

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I. The Economy of the Region

Since the concept of region is vague and might involve different definitions depending on the context, the first step is to clarify what is the effective regional economy for the purposes of this study; in other words, what locations are affected directly and indirectly by activities of Toledo Community Foundation. Although most of TCF's activities predominantly target Toledo, the city in Lucas County, Ohio, economic and social interactions of modern life naturally extend the affected area to a broader geography that also involves nearby locations. The question about how these boundaries extend beyond Toledo needs to be addressed comprehensively from two perspectives: (1) what are the economic linkages between different locations and (2) what is an effective 'sphere of influence' of Toledo Community Foundation.

From an economic perspective, there are several overlapping layers that can be used to delineate the notion of the regional economy. At the smallest geographical level, one can rely on municipal boundaries of the city of Toledo as a criterion that separates the region (in this case, the city) from the rest of the economy. Being the most restrictive definition of the region, it fails to recognize that economic and social interactions do not stop at the municipal boundaries. A broader definition would be far more practical. However, there are several of them. Broader definitions range from defining the region as (a) Lucas County, (b) the Toledo Metropolitan Statistical Area, or (c) the Toledo-Findlay-Tiffin Combined Statistical Area. These three definitions represent gradually expanding notion of the Toledo region with the city of Toledo as the key region-defining anchor. Any of these geographical areas would be a potential choice of the region for the economic impact analysis because individual components at each scale are linked to each other by economic and social ties.

In addition to considering geographical arrangement of economic ties, it is important to take into account the effective area of influence of Toledo Community Foundation. In this regard, an important step of analysis is to determine the scale and location of other community foundations. Examining the maps of community foundations across the country [COF, 2020], it is important to note that Toledo Community Foundation is unique to Lucas County, Ohio. Nearby foundations (albeit of smaller scale) operate in Bowling Green (Wood County, Ohio) and Bedford Township (Monroe County, Michigan). There is no community foundations present is nearby predominantly rural Fulton County, Ohio but there is one in Ottawa County, Ohio, that operates under the umbrella of TCF. Also, there are independent community foundations in Tiffin and Findlay. Given that beside Bedford Township, there are other community foundations operating in Monroe County, Michigan, it calls for excluding the entire Monroe country from the 'sphere of influence' of TCF, even though there is evidence of strong economic linkages between south of Monroe county, Michigan and northern parcels of Lucas County. For example, approximately every sixth student at The University of Toledo was resident of Monroe county at

the time of enrollment. Nonetheless, the majority of community foundations located in northern part of Monroe County, Michigan, stronger gravitate to Detroit – Wayne County metropolitan area. The same determination (ignore Monroe County, Michigan – Lucas County, Ohio linkages) is implemented by determining the boundaries of metropolitan statistical areas [OMB, 2018].

Another issue is to draw the boundaries of Toledo region among Ohio counties. There are strong linkages between Lucas County and northern areas of Wood County (in particularly in parts of Rossford, Perrysburg, other growing townships) that geographically and economically gravitate stronger to Toledo than to Bowling Green. In addition, Bowling Green Community Foundation is an affiliate of TCF, and there are no other community foundations in Wood County. These economic and community foundation linkages precipitate the inclusion of Wood County in the ‘sphere of influence’ of Toledo Community Foundation.

Two other counties that are adjacent to Lucas County—Fulton and Ottawa—position geographically remotely from other urban centers; Ottawa County Community Foundation operates under umbrella of TCF. Thus, the effective influence of the Toledo Community Foundation involves these two counties as well. However, more remote from Toledo locations — Tiffin and Findlay — although included in Toledo-Findlay-Tiffin Combined Statistical Area, are mostly unaffected by Toledo Community Foundation because these counties have their own community foundations and have much weaker economic links with Toledo. Thus, in terms of ‘sphere of influence’ of TCF, it is reasonable to exclude counties with a strong presence of local foundations. Therefore, the best definition of the region for the purposes of this study is the Toledo Metropolitan Statistical Area (Toledo MSA). The official definition of the Toledo MSA [OMB, 2018] includes four Ohio counties: Lucas, Fulton, Wood, and Ottawa. In geographic terms, it is composed of the largest urban county (Lucas) and three geographically adjacent Ohio counties: Wood, Fulton, and Ottawa.

The Industrial Composition of Economic Output

Table 1 summarizes the volumes of economic activity in the region by major industries and sectors. Table A1 in the Appendix provides a similar profile albeit with a higher level of detail. Either table would characterize Toledo’s economy as heavily dependent of the “legacy” sector that comprises of manufacturing along with other industries, which economic output is closely-related to manufacturing. Delving into the details of this sector provides insight of the economic environment of Toledo Community Foundation.

Manufacturing in the Toledo region was responsible for generating \$9.1 billion out of \$38.1 billion of total output in 2018, which constitutes 23.9 percent of total economic activity. In

contrast, the same indicator for the United States is less than half as much – only 11.3 percent. The gap between the percentages highlights the fact that fortunes of Toledo’s economy are more than twice than the national average dependent on manufacturing. Historically, the well-positioned Toledo region benefited from strong industrial cluster associated with manufacturing, in particular car manufacturing and supplies, components, and other supplier-chain related activities. The jobs created by these sectors used to be desirable, well-paying jobs that were considered better alternatives to jobs in agriculture and low-paying jobs in service sector. Once the national economy started to become more service-oriented, the situation changed dramatically. As a legacy sector, manufacturing is growing much slower than the rest of the economy, so its share in the national economy is declining (dropping from 12.2 percent in 2008 to 11.3 percent in 2018, in current dollars), which limits economic growth prospects for regions dependent on manufacturing.

While the share of manufacturing in the Toledo region is rather stable – the pre-recession level (23.9 percent in 2007) [BEA, 2020] is comparable to the current level (23.9 percent in 2018), being associated with a legacy sector does not come easy to Toledo regional economy. The problem is in economic stability, or rather, instability in the local economy due to volatility and unpredictability of economic fortunes of legacy sectors. Sudden ups and downs in Toledo manufacturing usually precede by a year or so the ups and downs in the overall region’s economy. During the Great Recession (2007–2009), the manufacturing sector was hit the hardest among the major sectors in the Toledo region when the total manufacturing output dropped from the all-time peak of \$7.1 billion in 2006 to \$5.3 billion in 2009 (all numbers in current dollars). This drop of manufacturing output dragged the rest of the region’s economy into recession. Not only does this relationship highlights the relevance of manufacturing as the key component of Toledo’s economic base, but also demonstrates the devastating consequences for the local economy when the instability of just one sector – manufacturing – impairs the rest of the local economy. It should be noted that an across the board drop in economic output lead to social and human capital losses, spiking unemployment, higher poverty rates, detrimental effects on the health of children and adults alike, and other indicators of distress.

The intrinsic economic instability of the manufacturing sector is a key aspect of the environment in which TCF operates. On one hand, periods of booming manufacturing attract labor force to the region, generate well-paid jobs, and foster economic prosperity. In such times, gains in manufacturing are gradual, occurring as an incremental build-up over a number of years with ample time for the economy and population to adjust. On the other hand, periods of bust are more severe and asymmetric because economic declines are large in magnitude and occur over a short period of time with little warning and few options for local residents and businesses to adjust. It should be noted that fluctuation of economic activity during the business cycle is a particularly sensitive issue for all legacy industries: manufacturing is merely the strongest one in the Toledo region.

Table 1. Gross Domestic Product (GDP) of Toledo Metropolitan Statistical Area, 2016–2018, millions of current dollars (not adjusted for inflation)

Description	2016	2017	2018
All industry total	34,719	35,979	38,143
Private industries	30,826	32,068	34,119
Construction	1,533	1,513	1,501
Manufacturing	7,618	7,890	9,111
– Durable goods manufacturing	4,904	4,677	5,002
– Nondurable goods manufacturing	2,713	3,213	4,109
Wholesale trade	1,866 (1)	1,919 (1)	1,997 (1)
Retail trade	2,316	2,484	2,447
Transportation and warehousing	1,165 (2)	1,227 (2)	1,317 (2)
Information	684	693	673
Finance, insurance, real estate, rental, and leasing	6,077	6,185	6,279
– Finance and insurance	1,566	1,584	1,685
– Real estate and rental and leasing	4,510	4,601	4,594
Professional and business services	2,963 (2)	3,121 (2)	3,391
Administrative and support and waste management and remediation services	915	954	1,007
Educational services, health care, and social assistance	3,570	3,569 (1)	3,732 (1)
Arts, entertainment, recreation, accommodation, and food services	1,308	1,349	1,364 (2)
Other services (except government and government enterprises)	719	741	751
Government and government enterprises	3,893	3,911	4,024
<i>Notes:</i>			
<i>(1) Excludes Ottawa county levels to avoid disclosure of confidential information.</i>			
<i>(2) Excludes Fulton county levels to avoid disclosure of confidential information.</i>			

As Table 1 demonstrates, the economy of the region is gradually expanding, even in a “low-growth” environment, where the entire economy of the USA is growing at levels below multidecade averages. The nominal increase in Toledo’s economy over 2016–2018 lags that of the USA only by 0.1 percentage points. A long-term view, however, would have shown that during times of economic distress the economy of Toledo didn’t fare very well because of accentuated decline in the legacy sectors that constitute large part of region’s economy. The resilience of the Toledo region, however, is made evident by the subsequent economic recovery, when most of the losses in economic output were recovered. Nonetheless, such recoveries are not symmetric: manufacturing plays a smaller role during booming years with most expansion being attributed to new, faster growing sectors. Despite the heavy presence of manufacturing, Toledo’s economy is rather well-diversified with a strong presence of diverse service-oriented enterprises:

health care, trade, transportation and warehousing, professional, scientific, and business services, many of which are related to a hefty presence of corporate offices.

Economic and Employment Profile of the Region

Table 2 offers an opportunity to compare the economic profiles of the Toledo region to Ohio and the United States. Table A2 in the Appendix provides more industrial detail, subject to data disclosure policies. Both tables contain data for Ohio and the United States in 2018 and the Toledo Metropolitan Statistical Area over a period of three years (2016–2018). Since Ohio and the United States have large economies, they are subject to more inertia, so key proportions and ratios do not change as fast over time as they do for a relatively small economy such as that of the Toledo region. This table helps us better understand the economic conditions in which TCF conducts its activities.

Per capita income and components

The overall per capita income in Toledo is lagging behind Ohio and the United States. In 2018, the Toledo per capita personal income was \$46,868 in comparison to \$48,793 in Ohio and \$54,526 in the United States, which shows that Toledo was 9.6 percent below the state's per capita income and 14.0 percent below the national level. Although per capita income in Toledo has been increasing by 7.1 percent over two years (from \$43,742 in 2016 to \$46,868 in 2018), the gap in incomes has failed to decline. In fact, the gap in per capita income has gradually increased over time (not shown in the table).

The largest component of per capita income in the Toledo region is income from labor and business ownership – income from wages and proprietor's employment. It is also lagging behind the state and national averages, but the gaps are somewhat smaller. In terms of net earnings (total per capita income minus transfers and dividends), Toledo lags behind the state only by 4.0 percent (\$29,597 in Toledo versus \$30,843 in Ohio) and the United States by 13.4 percent (\$27,597 in Toledo versus \$34,159 in the United States). This suggests that for the Toledo region overall, income earned from gainful employment and productive business is relatively more significant than it is in other parts of the state and the nation but it lags behind most of the state and the US.

Other components of per capita income are also significant; income maintenance in Toledo is fairly high due to high poverty rates and a large presence of low income and other economically disadvantaged groups. For example, the Toledo per capita income maintenance exceeds the state level by 10.7 percent (\$858 in Toledo against \$775 in Ohio) and the national level by 7.9 percent (\$858 in Toledo against \$795 in the USA). Also, income maintenance levels are gradually declining (from \$892 in 2016 to \$858 in 2018) as expected because the overall level of economic

distress in Toledo is easing during more prosperous times. Along with per capita earnings indicators, these statistics suggest that the Toledo region is more dependent on jobs than suggested by national and state averages, and existing jobs are not sufficient to deliver the average level of economic prosperity.

Table 2. Economic Profile of Toledo MSA, Ohio, and the United States

Description	Toledo, OH – MSA			Ohio	USA
	2016	2017	2018	2018	2018
Per capita incomes (dollars)					
Per capita personal income	43,742	44,668	46,868	48,793	54,526
Per capita net earnings	27,776	28,208	29,597	30,843	34,159
Per capita personal current transfer receipts	9,352	9,595	9,859	9,381	9,096
Per capita income maintenance benefits	892	871	858	775	795
Per capita unemployment insurance compensation	86	89	82	75	84
Per capita retirement and other	8,374	8,635	8,919	8,531	8,216
Per capita dividends, interest, and rent	6,614	6,864	7,412	8,569	11,271
Place of work profile (millions of dollars)					
Earnings by place of work	21,192	21,498	22,518	406,562	12,510,655
Wages and salaries	15,163	15,397	16,113	291,690	8,879,507
Supplements to wages and salaries	3,810	3,872	4,063	70,536	2,032,454
Proprietors' income	2,220	2,228	2,342	44,336	1,598,694
Farm proprietors' income	-7	-7	12	593	37,143
Nonfarm proprietors' income	2,226	2,235	2,330	43,743	1,561,551
Total employment (thousands of jobs)	397	396	401	7,093	200,746
Wage and salary employment	330	328	331	5,670	154,375
Proprietors employment	67	68	70	1,422	46,371
Farm proprietors' employment	3	3	3	71	1,790
Nonfarm proprietors' employment	64	66	68	1,352	44,581
Population (thousands)	645	644	644	11,676	326,687
Employment/total population ratio	0.616	0.615	0.623	0.608	0.614
Salaried employment/total employment, percent	83.1	82.8	82.5	79.9	76.9
Average earnings per job (dollars)	53,377	54,289	56,162	57,319	62,321
Average wages and salaries	45,939	46,983	48,714	51,440	57,519
Average nonfarm proprietors' income	34,616	34,059	34,496	32,355	35,027

Per capita retirement income in Toledo exceeds the Ohio level by 4.5 percent (\$8,919 in Toledo against \$8,531 in Ohio) and the United States by 8.6 percent (\$8,919 in Toledo against \$8,216 in the nation), which suggests stronger presence of an older population in the region. This indicator does not suggest that Toledo is a magnet for wealthy retirees (like sprawling retirement communities in Florida or Arizona); instead, it suggests a tilt toward an older population in the demographic composition of the region and a large presence of low-to-moderately wealthy

retirees. It might also read as an indication of fairly limited opportunities for capable young adults that would keep emerging young adults in the region or attract them from other regions. This conclusion is also supported by a stagnant-to-declining total population in the region (Table 2).

Finally, per capita income from dividends, interest, and rent – all indicative of the wealth of their recipients – is dramatically lower in Toledo than in the state or nation. This component of per capita income was 13.5 percent lower than in the state (\$7,412 in Toledo in comparison to \$8,569 in Ohio) and a massive 34.2 percent lower than the US level (\$7,412 in Toledo in comparison to \$11,271 in the nation). In essence, this suggests that Toledo residents draw much less income from their wealth than an average resident of Ohio or the USA would; hence, Toledo residents are not as wealthy.

To summarize, the per capita income table suggests that the Toledo region is more dependent on labor income and less dependent on accumulated wealth. The region has a fairly high exposure to retirement (but not high income) communities and copes with a fairly significant presence of low-income and other economically disadvantaged groups. These aspects of the Toledo economy form a rather sober context for putting in correct perspective initiatives and contributions to the community by TCF.

Average earnings per job

These consist of two categories: (1) wages and salaries, and (2) proprietor's income. The proprietors' share in the total of work-related earnings is only 10.3 percent in Toledo (\$2,330 million out of total of \$22,518 million in 2018) while the corresponding shares in the state and nation are 10.8 percent and 12.5 percent respectively. Hence, Toledo's economy is more dominated by salaried jobs. Also, interestingly enough, while Toledo wages and salaries (as many other income-related indicators) are below state and nation averages, the proprietors' income per job (when counting proprietor as a worker) in Toledo exceeds Ohio by 6.6 percent (\$34,496 in Toledo in comparison to \$32,355 in Ohio) and lags behind the US only by 1.5 percent (\$34,496 in Toledo in comparison to \$35,027 in the US). This suggests a presence of a well-qualified, skilled labor force in the region, a presence that is stronger in the region relative to state and national compositions of labor force. The average wages and salaries in Toledo are by 5.3 percent lower than in Ohio (\$48,714 in Toledo against \$51,440 in Ohio) and by 15.3 percent lower than in the nation (\$48,714 in Toledo against \$57,519 in the USA). The lagging average wages are partly the outcome of a relatively weak presence in Toledo's economy of high-paying jobs (such as in financial services, health care, administrative and professional services) and partly of low cost of living.

Population, employment, salaried employment ratio.

The population of Toledo has remained fairly stable over the last few years. However, the lack of positive demographic growth does not bode well for the economy of the region because during times of economic distress, the population of the region drops dramatically. As a result, if the population does not recover during good times, the net dynamic over the duration of the business cycle is a slow decline. A similar trend is characteristic for Ohio as well, so Toledo is not an exception here. As Table 2 shows, the employment to total population ratio is higher in Toledo than in Ohio and the US (0.623 in Toledo against 0.608 in Ohio and 0.614 in the USA). Remarkably, this indicator has kept rising in Toledo – it went up from 0.616 in 2016 to 0.623 in 2018. This tendency shows that Toledo is a mostly hard-working town with a larger percentage of the population being employed than in the state or nation. Although ‘employability’ of Toledo keeps increasing, the per capita income and average wages and salaries are lower than the state and national averages. On one hand, it shows Toledo residents being dependent on local jobs; on the other hand, it shows that the cost of labor in the region is rather subdued, highlighting cost advantages for existing and prospective businesses. Finally, salaried employment in Toledo is slightly higher than in the state and nation, suggesting that opportunities for small businesses or contractor-type jobs are not as abundant as in other parts of the country. The disparity between apparent income opportunities and available labor is attributed in part to a heavy presence of manufacturing, where most jobs are salaried due to requirements of the production process and dominant technologies. In contrast, service sectors allow for more flexible business arrangements, which present more opportunities for proprietors, individuals contractors, and mixed arrangements.

Table 3 shows the industrial mix of total employment in the region over three years. Notice that the total employment in Table 3 matches the employment totals in Table 2, except Table 3 provides higher accuracy and more industrial details. Employment by industry in the Toledo region (Table 3) corresponds to the industrial composition of economic output (Table 1) with some exceptions. For example, shares of construction (about 5 percent) and manufacturing (about 24 percent) are equal in terms of output and employment. However, for some sectors there are significant disparities. For example, retail trade in Table 3 holds about 9.8 percent of total employment (39.2 thousand in retail trade out of total 400.9 thousand jobs), whereas its output (\$2,447 million out of total \$38,143 million) holds a disproportionately small share of only 6.4 percent. In contrast, sector of finance, insurance, real estate contributes 16.5 percent of total output of the region, which accounts for \$6,279 million out of \$38,143 million in total GDP) while the sector employs only 7.5 percent (29.9 thousand jobs out of 400.9 thousand jobs in the region). Therefore, the service sectors – not surprisingly – differ in terms of productivity, wages, and growth prospects. It should be noted that real estate is typically “a high yield industry”, so its

strong performance in Toledo is also not surprising. In other words, while manufacturing tends to be the sector with a higher productivity level than other sectors in the economy, overall manufacturing in the Toledo region delivers average productivity. In addition, manufacturing in Toledo is very diverse in terms of size of establishments yet strongly leaning toward car manufacturing and related supplies.

Table 3. Employment by industry in Toledo MSA in 2016–2018, thousands of jobs

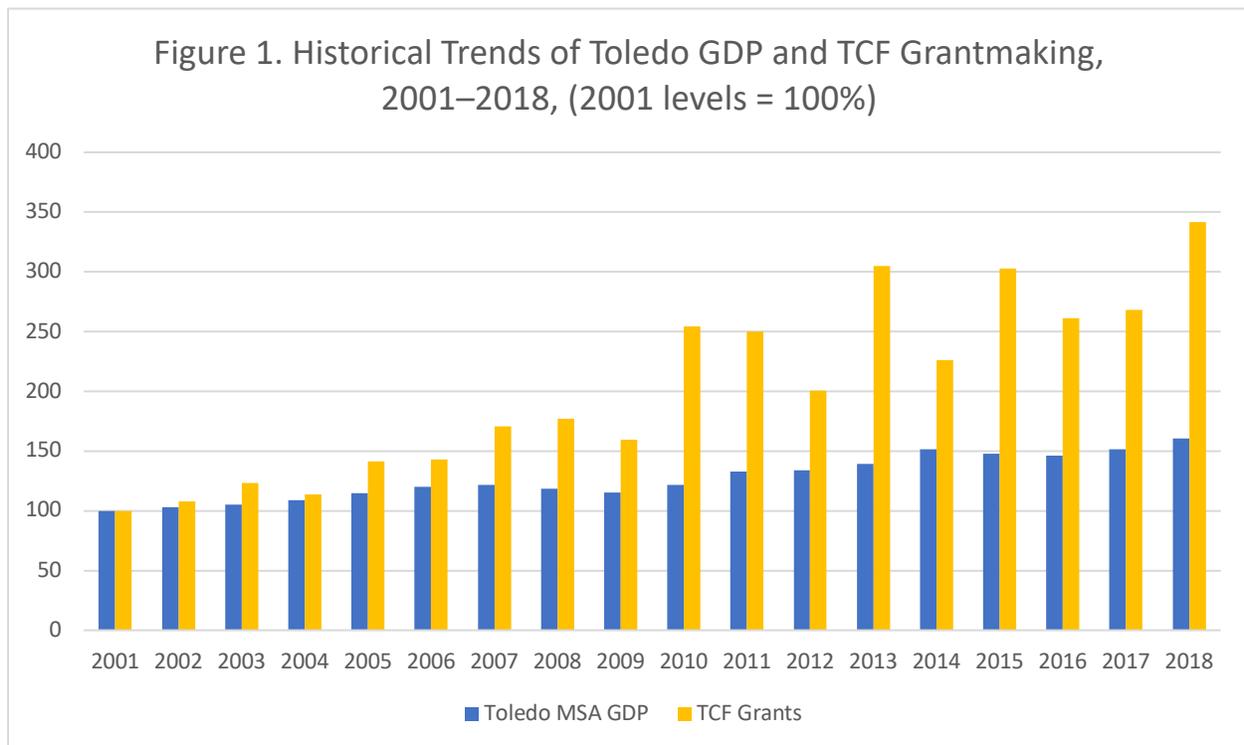
Description	2016	2017	2018
TOTAL EMPLOYMENT	397.0	396.0	400.9
Farm employment	3.8	3.6	3.7
Private nonfarm employment	344.63	344.11	348.98
Construction	19.8	20.2	20.5
Manufacturing	47.93	46.29	48.63
Wholesale trade	13.5	13.5	13.4
Retail trade	40.3	39.7	39.2
Information	3.8	3.8	3.8
Finance and insurance	14.1	13.9	14.4
Real estate and rental and leasing	14.88	15.14	15.5
Administrative and support and waste management and remediation services	24.1	23.7	24.2
Arts, entertainment, and recreation	8.9	9.07	(D)
Accommodation and food services	31.7	32.0	(D)
Other services (except government and government enterprises)	21.1	21.1	21.0
Government and government enterprises	48.6	48.3	48.3
Notes:			
(D) data suppressed to avoid disclosure of confidential information			

Additional context to the measure of socio-economic wellbeing in the Toledo region is provided by data on infant mortality rates. In international comparisons, infant mortality rates can represent a comprehensive state of the nation in terms of quality of health care, proclivity of the population to pursue healthy life styles, socio-economic conditions that would facilitate accessibility of such choices, and environmental and ecological factors. Among developed countries, the USA is one of the worst in terms of infant mortality despite the fact that the nation is far ahead of many regarding per capita GDP and the percentage of GDP spent on health care (about 1/6). For example, in 2019 infant mortality rates place the USA between Russia and Chile that have much lower GDP per capita than the US; most developed and some developing countries exhibit better infant mortality than the US [OECD, 2019]. This suggests that there is

potential for improving infant mortality rates and other health outcomes because the nation does generate a relatively high level of resources. Factors cited as the reason for high infant mortality in the USA [OECD, 2019] include high income inequality, high poverty rates, and low level of education among the country's population. In this context, the USA's mortality rates are 5.9 per 1,000 live births, Ohio's rates are 6.9 per 1,000 live births, and Lucas County's rates are 7.4 per 1,000 live births [ODH, 2018; CDC, 2020]. These statistics suggest that the socio-economic conditions and living standards in the Toledo region are comparable but slightly lagging behind those in the United States and Ohio. Comparing the Toledo region to Ohio and the nation shows that there is room for improvement for the region whose residents are heavily dependent on gainful employment for their livelihood. This also puts into context the programs and priorities of community engagement advocated by Toledo Community Foundation (discussed further in the report).

II. An Overview of Toledo Community Foundation Activities

The Dynamics of Grantmaking by Toledo Community Foundation, 2001–2018



Source: BEA (2020), TCF (2019 a, b)

Figure 1 presents a visual summary of dynamics of the regional economy in comparison to the Toledo Community Foundation grantmaking volumes. Both time series reflect data scaled so that the volumes for 2001 are set to 100 percent. Neither indicator reflects an accumulation of assets or capital, and neither indicator reflects any costs or expenditures associated with generating their respective performances.

Toledo's Gross Domestic Product indicates the economic output of the region (Toledo Metropolitan Statistical Area) in current dollars (not adjusted for inflation). This amount shows the level of income generated from a functioning economy (wages, profits, rents, etc.). GDP is commonly accepted measure of the level of economic activity in the region. In absolute terms, Toledo's economic activity increased from \$23.7 billion in 2001 to \$38.1 in 2018, which is a 60.5 percent increase over 17 years, translating into nominal annual growth rate of 2.82 percent.

The dynamics of Toledo Community Foundation's grantmaking levels was also scaled to show 100 percent in 2001. The levels of grantmaking in Figure 1 show only amounts of grants made to community organizations; these levels do not reflect all annual expenditures of TCF. In absolute terms, volume of grantmaking increased from \$5.1 million in 2001 to \$17.3 million in 2018, which is a 241.2 percent increase over the time period of 17 years. This result translates into a nominal annual growth rate of 7.48 percent.

Inflation was not taken into account in either series. It should be noted that inflation rates over the entire period were modest overall, and their dynamics were rather smooth. Comparing two dynamics suggests that overall growth rate of grantmaking activities of TCF has exceeded growth rate of the regional economy by the ratio of 2.65: grantmaking grew on average 2.65 times faster than did the regional economy. Since this ratio reflects growth rates, not absolute volumes, it has little – if any – sensitivity to inflation; as a result, inflation-adjusted growth rates would show similar pattern: TCF grantmaking is far ahead of the regional economy. Also, on a year-by-year basis, TCF's growth rates were more often to exceed Toledo's GDP growth rates than to fall behind. This comparison of the dynamics suggests that the near future economic impact of TCF will rise faster than the local economy. This clearly indicates that the relative significance of TCF in the local economy will gradually increase.

How Smooth is TCF's Grantmaking, and Why It Is Important?

To evaluate the relationship between the dynamics of grantmaking and local economy, we rely on the correlation coefficient between their growth rates. The highest possible level of correlation is 1.0; such value of correlation – when it occurs in practice – implies that the two indicators always move together, mimicking each other's direction and relative magnitude of change. The lowest possible level of correlation is -1.0, which implies that the two indicators always move in the opposite directions with identical relative magnitudes. According to the author's calculations, the correlation coefficient between growth rate of Toledo GDP and TCF grantmaking over the period 2001–2017 is merely 0.07. Given what large positive or large negative correlation coefficients might be, in the case of growth rates of the Toledo GDP and the TCF grantmaking volumes, the correlation coefficient is close to zero. This is a statistical zero (statistical hypothesis testing indicates that there is no empirical evidence to suggest that the two indicators are somehow related) and a substantive zero (numerical value of 0.07 indicates that using one indicator to predict the dynamics of another would be unproductive). As a result, for all practical purposes, the growth rates of TCF's grantmaking are independent of the growth rates of the Toledo region's economy.

Why is the independence of TCF's grantmaking from local economic growth so important? Suppose the opposite were true – suppose the growth rates were strongly positively correlated.

This situation would have implied that grantmaking accelerated in the years when the economy is already growing at a relative fast pace and slows down in the years when the economy is either shrinking (recession) or sluggish. A positive relationship would be undesirable from three unconnected perspectives.

The first perspective is an economic impact perspective. As recent literature suggests [Irons, 2009], the economic impact of expenditures during slow-growth or recessionary economy is higher on average because the economy is performing below its potential and has an abundance of labor and other resources. Any economic incentive in such economic environment is unlikely to lead to inflation and is more likely to promote fuller, better use of existing resources with few undesirable outcomes. The opposite is also true – expenditures that materialize in a booming economy have smaller output- and employment-boosting multipliers because when the economy operates at or above its sustainable potential, a large part of the impact is diffused into stimulating inflationary pressures rather than growth. Furthermore, if the economy is already overheated, additional economic stimuli are likely to have few if any positive effects for output and employment. For this reason, it is important that the economic stimuli were not correlated positively with the levels of economic output.

The second reason is the need-based perspective. As was shown in the previous section, during prosperous economic times, the level of economic distress in the region declines, so the need for a remedial intervention declines correspondingly. In contrast, during times of economic distress (recession), when adverse and high-magnitude economic shocks are unexpected, the community's needs for relief are at the highest level. However, some of these are addressed by proper public policies (to some extent, via income maintenance, unemployment insurance, and other federal and state government programs). The good news is that the times of acute economic distress are typically short-lived (a few quarters at most) relative to longer (several years) periods of recession-free growth. Thus, the community demand for relief of economic distress is unlikely to positively correlate with the economic output in the region.

Finally, the third perspective concerns with overall efficiency of grantmaking activities and the pursuit of long-term goals. Long-term goals and, thus, grantmaking volumes, should not be impacted substantially by short-term fluctuations in the economic environment and financial markets because volatility and unpredictability of the community-oriented initiatives adversely affects their overall impacts. For example, long-term initiatives are likely to encourage involved parties to commit to long-term activities (education, environmental conservation, investments in infrastructure, etc.) because although their effects typically take longer time to materialize, their magnitude is larger than the cumulative of short-term measures. Thus, from this perspective, it is desirable that the dynamics of TCF's grantmaking would be independent of the growth of the region's economy, providing a smoother trajectory of community development.

Toledo Community Foundation occupies a precarious position with offering community support that is independent of economic fluctuations in the regional economy because most gifts to the Foundation are pro-cyclical. Specifically, the correlation between the growth rates of gifts received by the Foundation and Toledo region's GDP is 0.29 as computed using data from 2001–2018 [TCF (2019 a, b), BEA (2020)]. This is a significant positive relationship between the two indicators. To interpret this value, it would help to think that roughly two-thirds of times these growth rates coincide and one-third of times they move in the opposite directions. To be fair, it is not overly high (highest possible would be 1.0), yet it does represent a challenge for TCF – it experiences higher inflows of gifts during prosperous years and slightly lower ones during times of economic distress. If TCF were merely following the trends in gifting, its grantmaking also would have been positively correlated with Toledo region's GDP. Hence, it takes an effort and prudent grantmaking policy to avoid such a situation. The data suggests this outcome has been successfully avoided so far, which puts an additional positive spin on the overall positive dynamics of economic impact of TCF. For example, during 2001–2018 the standard deviation of TCF's grantmaking growth rates is only 3.7 percent whereas the standard deviation of growth rates in gifts is 30.3 percent [computed by author]. This result shows a dramatically smaller volatility of grantmaking and a tremendous smoothing in the use of TCF resources.

When relating the dynamics of TCF's grantmaking to the performance of the local economy, it begs the question of whether the historical overperformance of grantmaking has a potential to continue in the future; in other words, is it sustainable? The question about sustainability is very important because – as discussed in the previous section – the economic base of the Toledo region is dominated by legacy sectors producing economic growth that is lagging behind the state and national averages, vulnerable to abrupt adverse shocks, and is hard to transform into a more prosperous economic environment. However, the growth rates of the amounts of gifts received by TCF are positively correlated with the fortunes of the region's economy. Given this background, the dramatic gap in the dynamics of TCF's grantmaking local economy – TCF's grantmaking growth rates exceed the local economy's growth rates by a factor of 2.65 – has to have an additional source to be sustainable. It appears that these concerns can be placed to rest by taking into account two considerations: (1) with few exceptions, the annual amount of gifts received by TCF exceeds the volume of grantmaking in that year; and (2) the total amount of assets of TCF exhibits higher growth rates than that of grantmaking. Between 2001–2018, the Foundation asset base has more than tripled in value [TCF, 2019 a, b]. An important statistic is the ratio of total assets to grantmaking. This ratio stands at 16.8 in 2018. One can interpret this as the Foundation has enough assets to support current levels of grantmaking for 16 more years even with no gifts or asset appreciation. It should be understood that the growth of the asset base is subject to financial market fluctuations, so short-term ups and down are normal for well-managed diversified portfolios. Notwithstanding these issues, the long-term (2001–2018) trend reflects the favorable balance between current grantmaking and contributions toward potential

growth. Specifically, the growth of the assets of TCF exceeds that of grantmaking by approximately 13 percent per year. This suggests that if current trends in gifts, grantmaking, and asset management continue, the capabilities of TCF grantmaking are likely to keep increasing unabated.

The Scope of TCF Activities

Toledo Community Foundation engages with the local community via several leadership initiatives [TCF, 2017]. These are arranged into several groups:

- Economic Opportunity
 - Overland Project (public infrastructure, proactive grantmaking; leveraging non-local resources)
 - Green and Healthy Homes Initiative (public infrastructure, leveraging non-local resources, local governance improvement)
 - Regional Collaboration/Extra-local Grants (leveraging non-local resources)
 - Branding Initiative (public infrastructure, proactive grantmaking)
 - CEOs for Cities (public infrastructure)
 - DOL–ETA Youth Career Connect (leveraging non-local resources, public infrastructure)
 - HUD Promise Zone (leveraging non-local resources, public infrastructure)
 - Build Toledo Fund (leveraging non-local resources, public infrastructure)
- Educational Opportunity
 - Tutoring (research, proactive grantmaking)
 - Aspire (public infrastructure, reactive grantmaking)
 - Head Start (leveraging non-local resources, public infrastructure)
 - Afterschool Alliance (public infrastructure, proactive and reactive grantmaking)
 - Community-Wide Youth Outcomes (research)
- General Charitable Purpose
 - Giving Tuesday (proactive grantmaking)
- Conservation and Environmental Remediation
 - Conservation Founders Collaboration (research, proactive grantmaking, targeted crisis response)
- Health and Human Services

- Live Well Toledo [formerly Pioneering Healthy Communities] (public infrastructure)
- Expansion of Services for Children Victimized by Human Trafficking (proactive grantmaking, research)
- Lucas Cnty Initiative to Improve Birth Outcomes (proactive grantmaking, reactive grantmaking, public infrastructure, research)
- Runaway Shelter (research, reactive grantmaking)
- Oral Health Services for Young Children (proactive grantmaking)
- Mobile Benefit Bank Project (proactive grantmaking)
- Veterans' Service Needs (research)
- Safety Net (proactive grantmaking)

Many of the activities and specific projects are featured in TCF annual reports. The annual reports identify specific initiatives and disclose details of their funding and implementation. They also provide insight on how these initiatives fit into long-term vision of TCF and contribute to improving the quality of life in the region. The ongoing initiatives are diverse not only in terms of how they are implemented but also in the levels of funding and the duration of TCF's active engagement in the projects.

TCF's commitment to a long-term agenda and demonstrated timeliness, prudence, and responsiveness in their approach to grantmaking can be illustrated by specific projects and initiatives, big and small. For example, in the midst of the 2014 Water Crisis, the Toledo region found itself suddenly deprived of an abundant, inexpensive, and reliable source of drinking water – tap water. “Do not use tap water for drinking, showering, or washing!” was a once-in-a-lifetime shock to the entire region. The local tap water supply that was sourced from Lake Erie came up to show significant presence of deadly toxins from blooming algae. The region was ill-prepared for such an event. Late mayor Mike Collins had to deal with both the inflexibility of state and federal agencies and the unpreparedness of the entire region due to the sheer magnitude of the crisis. Even bigger issue was irreparable damage to the reputation of Toledo and the local businesses and resident's confidence in the region's future and its viability. In such circumstances, any help would be an asset. TCF responded with an emergency grantmaking round specifically aiming to address the problem and its consequences. After the Water Crisis abated, at the direction of the Board of Trustees, TCF has engaged with local partners and other funders using various channels, such as the Great Lakes Funder Collaborative.

The economic impact of an initiative during a time of crisis or distress is difficult to quantify. For example, under normal circumstances, the retail price of one gallon of drinking water in Toledo in 2014 was about \$1. It was even less if one brought his or her own container to the grocery store and simply refilled one-gallon container from a water source in the grocery store. In that

case, price per gallon was about \$0.39. Tap water was even cheaper and abundant. During the Water crisis, the demand for spring and drinking water spiked so dramatically and so quickly (since tap water was off-limits) with a rather limited local supply that the consumers started to frantically buy all sources of water, large jugs and small bottles alike. Consequently, the price per gallon for small containers and exotic brands of water went above \$10 per gallon. Nonetheless, the worst part of the crisis was that even at those prices, there was inadequate supply, resulting in short-term shortage of water (with huge signs on most retailers in the area, “No Water”) until bottled water started getting diverted from nearby areas toward the crisis-embattled Toledo region. In addition, the Water Crisis happened during summer, when warm summer weather can easily provoke overheating and dehydration, so a lack of access to safe drinking water is not merely inconvenient, but it is also dangerous and detrimental for health. Even more so when showering and using pools was also prohibited. Given these considerations, using normal (pre-crisis) prices for estimating the impacts of any initiative aiming to alleviate water supply would hardly produce correct results. The reason is that a conventional economic impact analysis relies on the assumption that the economy is in a state of equilibrium, the quantity supplied is equal to the quantity demanded, so the observed prices are indicative of their equilibrium levels, and, therefore, are appropriate for use in the economic analysis. Evidently, during the Water Crisis, the market for water evaporates, an abrupt drop in supply spurs huge shortages, and normal prices detach from their informative function. Hence, in times of distress, the best approach would be to estimate the economic values of damage averted, which will likely provide by an order of magnitude higher numbers than the conventional equilibrium-based impact analysis. Henceforth, we still use conventional impact analysis methodology to obtain industrial composition of the economic impact, but we allow for adding a nominal premium, which still would be a conservative estimate of the actual impact.

Another important aspect of TCF’s grantmaking is leveraging non-local resources. This is accomplished when TCF makes efforts (and incurs costs) aiming at facilitating coordination and development of grant proposals from non-local sources. Such grants – if awarded by non-local agencies – typically are received by local institutions with most grant money spent locally. On one hand, TCF does not explicitly receive any credit when these grants are funded and executed because such funds bypass TCF. TCF’s cost of seeking and promoting these activities is a small fraction of the grants received. On the other hand, without the efforts and support that goes into these grants’ preparation, they are unlikely to be funded. This means one can value TCF’s stance towards leveraging at the accounting cost (cost to TCF) or value these activities in terms of their contribution to the community. The latter approach calls for taking into account opportunity costs, which economists commonly use to evaluate the economic value of choices and outcomes that would have occurred without particular activity. The difference in two approaches could be huge. For example, in 2013 Toledo Community Foundation convened potential lead agencies and sourced a national team to provide program development and grant writing support

resulting in a collaborative model for Head Start service delivery (\$33,400). More importantly is that this comprehensive effort resulted in the successful funding of the Lucas County Head Start Collaborative by the U.S. Department of Health and Human Services with \$8.1 million in funding, renewable over five years. This multi-agency effort brought together Toledo Public Schools, WSOS, Lucas County Family Council, and the Educational Service Center of Lake Erie West. On top of the initial grant, the Foundation's subsequent investment in grant writing support led to the 2015 award of \$1.9 million, renewable over five years, to provide comprehensive, year-round Early Head Start services to Lucas County infants and toddlers.

TCF does not maintain precise statistics about leveraging non-local resources because most of these are coherently integrated within the broadly defined long-term goals (see the list at the beginning of this section). Leveraging acts as a catalyst for inciting larger and more prominent influx of resources into local community. The large majority of these activities are merely initiated by TCF, which provides the most significant initial push and support toward eventual success. The main intermediaries of the subsequent external funding and consequential community-oriented outcomes are local agencies (government, non-profits, etc.). Anecdotal evidence suggests that these activities are profusely productive and beneficial to the community. However, the exact amount of these is unavailable. Completely disregarding the nature of these activities and ignoring their significance would lead to a dramatic understatement of TCF's economic impact to the community. The hints on the successfully leveraged projects can be found in TCF's annual reports. Consequently, we estimate that 3.3 percent of TCF's grantmaking is related to leveraging non-local resources.

Other factors to consider during the evaluation of TCF activities are the investments made by the Foundation in human capital of local residents (through programs in education, health care) and public infrastructure (conservation) programs. The nature of investments is generally not reflected in the conventional economic impact analysis because economic impact studies generally concern the economic effects of the increase of demand for locally produced goods and services due to increased expenditures. In contrast, the investments in local production base – as are the investments in public infrastructure or human capital – effectively increase the supply of locally produced goods and services by reducing their cost of production to local firms, increasing the availability of productive resources (such as skilled labor), or both. In addition, investments tend to yield returns over longer periods of time (decades rather than one year), so that the future returns exceed those in the period in which these investments were made. Not all expenditures of TCF are production-oriented investments because many programs of TCF effectively support and improve living conditions or preserve certain levels of livelihood for disadvantaged groups. The humanitarian, non-economic value of these programs is not part of our calculations. Consequently, these investments are treated as regular expenditures, which – as outlined above – might be an understatement of the long-term effects of these programs.

Finally, the financial prudence of TCF that shows in the increasing asset base of the Foundation is also not included in the economic impact analysis. However, considering TCF as “a community piggy-bank” that keeps giving back to the community would be nothing short of understatement because it keeps giving back more than what was invested in this “piggy-bank”. Balancing and asset-managing activities not only smooths the effect of the grantmaking activities (as discussed in the previous section of the report) but also facilitate a positive trend in those balances. In fact, the asset balances over 17 years have increased faster than TCF’s grantmaking activities. This value-added component and the fact that asset base growth is accelerated relative to expenditures are not taken into account in the economic impact analysis. The positive dynamics and prospects of TCF are important aspects of its current and future activity because they contribute to fostering a favorable reputation of TCF in the local community, create an image of a reliable and solvent partner, a driving force, a powerhouse that one can rely upon. The financial stability and overall reputation of TCF rather significantly affects its performance. The opportunity costs of these intangible assets could be significant (in a hypothetical financial transaction) but in the course of our economic impact study, these factors are not taken into account.

III. Estimating Local Economic Impact of TCF Activities

A Note on Methodology

The concept of local economic impact arises from understanding that the modern economy comprises of numerous interrelationships and linkages that spread throughout the region so that if any one element in the economy is either stimulated or depressed, the reverberations of this event permeate throughout the entire region. Most of these effects are localized (stay in the same region) because a vast majority of economic interactions are localized. These interactions typically amplify the effects of any external shock in the local economy. A positive shock (additional externally-motivated economic activity, additional demand for locally-produced goods and services, etc.) leads to positive aftershocks that are mostly localized and generally expansionary for the local economy; similarly, a negative shock (loss of customers outside of the region, shrinkage of spending coming to the local economy, etc.) leads to negative aftershocks that are generally contractionary for the regional economy. These effects are apparent in terms of impact on the economic output and consequentially, employment.

The interactions and their extent are easier to quantify when the local economy is in the state of equilibrium, in other words, the quantity of goods supplied is equal to the quantity of goods demanded. Then, the price of these goods is indicative of the amount of money changing hands when goods are sold, and no other substantive changes occur in the region. In other words, money earned are equal to money spent in the local economy. It is important to trace what happens in the local economy when some additional \$1,000 spend locally on a particular good. For example, one decides to spend \$1,000 in a local nursery on buying and delivering conifer saplings. These \$1,000 are the expenditures for the homeowner; the same \$1,000 are also revenue for the nursery. In the market economy, somebody's expenditures are always equal to somebody else's revenue. The nursery owner does not pocket this \$1,000 of revenue. Some of this amount indeed becomes the owner's profit but the rest of it is spent on wages and benefits of nursery workers, delivery workers, nursery's suppliers, paying local property and other taxes, rent, etc. Suppose, for example, the nursery owner pays \$300 in wages to nursery workers that reside in the same region, and suppose that after taxes, these workers have \$250 in disposable income to spend and pay \$50 in taxes to the local government. When nursery workers spend \$250 for buying goods and services locally, these expenditures generate somebody else's income (grocery stores, utility companies, dentists, etc.) When the local government receives \$50 in taxes (that it wouldn't have unless the nursery made a sale) with balanced budgets, the amount of local government expenditures will also be equal to \$50. Once the local government spends \$50 locally for paying for goods and services provided to the government (utilities, labor, roads, etc.), this amount becomes somebody else's income. All these subsequent activities wouldn't have taken

place without the initial \$1,000 spend by the homeowner on conifer saplings. By tracing \$1,000 of direct expenditures in this example, we are able to observe indirect expenditures of \$300 – these are called first-level indirect expenditures. In the real economy, these \$300 also will be spent on paying for goods and services, and thus, become somebody else’s income in the second-level indirect effects (additional expenditures in the local economy). Also, in the real economy, nursery owner’s profit in part is also spent locally (for example, for nursery expansion or nursery owner’s new residence). Continuing this sequence, one would be able to compute the total indirect impact of the original \$1,000 purchase.

Besides accounting for economic output, an important aspect of economic impact is the consequence of local expenditures on employment, that is, job-creation. First of all, gainful employment is an important source of income to residents in Toledo region (Tables 1–3). Hence, an important part of an economic impact study is accounting for how changes in economic output are accompanied by the corresponding changes in employment. As discussed in the example above, \$1,000 of local expenditures generates labor income (for nursery workers, delivery workers), which is the reason for direct-effect jobs. Also, additional, indirect effects lead to indirect effects in terms of job-creation. For the Toledo region, both direct and indirect effects of job-creation are very significant. There are two reasons for that. As Table 2 indicated, gainful employment is the most important component of per capita income in the Toledo region – it occupies a higher share in per capita income than in the state or national averages. The second reason is that the employment/population ratio in the region is also higher than the state and national average, suggesting that Toledo residents comprise of a working class, so that job-creation in the region is an important factor affecting local quality of life. Hence, in the computations of economic impact, we also pay attention to job-creating effects of TCF activities.

The economic impacts of TCF stem from grantmaking, leveraging non-local resources, and operating expenditures, most of which are also local. The total of economic impact highlights a scenario that involves comparing the state of the regional economy with these expenditures against the economy without them. Notice that economic impact should be viewed separately from asset-building of the Foundation because most of the balances are invested in financial instruments (stocks, bonds, money market funds, etc.) that are not necessarily directly linked to the physical investment in the local economy. Because of this, asset-building factors are left outside of the scope of this study. However, an accumulation of these assets might affect potential and future expenditures, programs, and other aspects of TCF’s activities. Thus, only current expenditures are taken into account while the net present value and any associated future potential of investments in financial instruments is not a part of these calculations. It should be noted that – as discussed in the previous section – the dynamics of financial assets of TCF slightly exceeds the pace of TCF’s grantmaking efforts, so ignoring the accumulation of financial assets might lead to a slight understatement of the full economic impact of TCF.

To compute the economic impact of the TCF's activities – both in terms of economic output and job-creation – we used specialized software package: IMPLAN (IMpact analysis for PLANing), which is one of the commonly used economic impact analysis models (USDA 2019). It is based on a solid economic theory – input-output model – that earned its developer the Nobel prize in economics. A reliable, well-tested application, it is used in a variety of projects pertaining to public policy, planning, litigation, and other settings where local or regional economic impact needs to be properly estimated. The advantage of using IMPLAN is its broad availability for most metropolitan areas, states, congressional districts, etc., which makes it possible to easily validate findings by independent reviewers using similar or comparable methodologies.

Although IMPLAN is a popular, commercially available package, it still requires an expert to enter the data on specific economic activity and fine tune model parameters if the default settings are deemed to be implausible. It is advantageous to use IMPLAN for this study because it allows to construct the aggregate economic impact (economic activity and job-creation) as well as to delineate it along industries. All computations account for the economic linkages between local firms, households, and governments in the multifaceted economy of the Toledo region. The critical output of the model is the decomposition of the direct and indirect effects because indirect effects are difficult to observe simply because of the sheer complexity of the local economy.

Annual economic impact of TCF

In year 2018, the Toledo Community Foundation's activities are characterized with the following direct expenditures:

grantmaking: \$17.31 million

administrative operating expenses and fees: \$4.82 million

Most grantmaking activities are local. Administrative operative expenses and fees shown above reflect only local expenditures. Financial management and others fees that are largely non-local are specifically excluded. As discussed above, we estimate that in a typical year 3.3 percent of TCF's budgets leverage non-local resources as specified in the section describing TCF's activities.

The economic impact analysis using IMPLAN is summarized in Tables 4 and 5. Table 4 shows the total and the industrial composition of the economic impact from TCF activities in the Toledo region. The largest component in Table 4 is Other Services with \$23.2 million in total impacts. This result fits very well in what is typically expected because the direct expenditures of \$17.31 million is largely attributed to this line. The indirect and induced effects, however, are dispersed among all sectors in the local economy. It is typical in this kind of analysis that the largest sectors in the economy capture larger portions of the direct and indirect effects. Also, the

specific industrial allocation of the effects might not mimic the composition of the economy – such as the one described in Table 1 – because most of the direct and indirect effects work through the local demand-oriented industries. Thus, in open economies – such as Toledo region – the sectors that mostly supply goods and services outside the region do not generate much of the local economic impact.

Table 4. The total (direct, indirect, induced) effects of TCF activities on local economic output of the Toledo region, by sectors, in year 2018, thousand dollars

Description	Total Impact
TOTAL	60,424.5
Agriculture, Forestry, Fishing	13.2
Mining	8.4
Utilities	1,173.1
Construction	347.7
Manufacturing	687.4
Wholesale	719.1
Retail Trade	1,239.9
Transportation & Warehousing	854.5
Information	2,683.4
Finance and Insurance	15,267.5
Real Estate, Renting, Leasing	4,062.2
Professional, Scientific, and Technical Services	2,892.6
Management	257.5
Administrative and Support, Waste Management, Remediation	1,409.8
Educational Services	332.2
Health Care and Social Assistance	2,575.9
Arts, Entertainment, and Recreation	324.0
Accommodation and Food Services	1,185.2
Other Services	23,171.0
Government and Government Enterprises	1,219.9

As Table 4 indicates, the total volume of economic output gained from TCF activities is \$60.4 million in Toledo region. The largest beneficiaries of the economic impacts – besides direct expenditures by TCF – are Finance and Insurance (\$15.3 million), Real Estate, Renting, and Leasing (\$4.1 million), Professional, Scientific, and Technical Services (\$2.9 million) and Health Care and Social Assistance (\$2.6 million). The impact of Manufacturing and Construction is not as strong as their respective presence in Table 1. This disparity shows the intrinsically consumer-oriented nature of the local economic impact. Finance and Insurance sector is present in the list of top industries mostly because of commercial and retail banking: any money spent in the local

economy recirculates back into the economy through the banking sector. The Toledo region has a strong presence of the banking sector, which works very well as a channel for recirculating money back into the local economy and thus contributing to economic impact. In contrast, weak or predatory banking would have funneled potential economic impact away from the region. Also, it is important to understand that the banking sector generates income for the banks and wages for employees, so recirculating money in the economy stimulates the industry and contributes to a large part of the consumer-driven impact. Although most of the economic impact in this industry comes from the indirect and induced effects in the local economy (consumer's spending and borrowing), there is some impact attributed directly to TCF's projects. For example, Mobile Benefit Bank Project assists low and moderate-income individuals and families to access and apply for public benefits and credit programs that require the use of the Ohio Benefit bank online system [TCF, 2017]. Another example involves research in the needs of veterans that might be overlooked by the Veteran Administration such as social services, health care, rehabilitation services, which might or might not involve monetary transfers.

The second largest (in terms of economic impact) sector is Real Estate, Renting, and Leasing (\$4.1 million). A big chunk of this impact comes from dwellings, both resident-owned and rented. A strong presence of the sector is related to the fact that although the Toledo region incomes are lower than those in the state or nation, housing is one of the necessities that are typically more affected by any program that benefits local residents. The contribution of different groups of workers varies with their respective incomes and residence location, but the local component of the economic impact mostly settles down in the form of increased demand for housing in the same region where these workers are employed. With increased demand for housing, secondary and tertiary impacts trickle down into utilities, retail trade, and government services. One subtle aspect of why Real Estate, Renting, and Leasing enjoys such a large impact is the extent of specific Toledo Community Foundation programs that inadvertently make local neighborhoods more appealing and thus positively affect consumption of Real Estate in the economy. For example, the Live Well Toledo initiative aims to engage community leaders in policy and environmental change efforts that "support and promote healthy lifestyles" [TCF, 2017]. Although this initiative is listed under category of Health and Human Services, its positive impact in due course spills over into Real Estate sector.

The third sector is Professional, Scientific, and Technical Services (\$2.9 million). These services include legal, accounting, architectural, engineering, computer, scientific research, advertising, marketing and similar services. Since these services are needed in practically every venue of work, they are demanded by many local producers. Although there are few initiatives supported by TCF that directly involve these services as the primary goal, most TCF initiatives one way or another do involve these services as an auxiliary aspect of the supported projects. Also, jobs in this sector are highly beneficial to the local economy because most of these jobs require high level of skills or education and thus pay substantially higher average wages than in other sectors (about

30-40 percent above the region's average wages). Therefore, a strong presence of this sector in the roster of economically impacted sectors is also indicative of strengthening the regional economy.

The fourth largest sector among top economic impact industries is Health Care and Social Assistance (\$2.6 million). The largest chunk of this industry's impact belongs to Health Care. Health Care sector is a rather large cluster of industries in the Toledo region, exceeding in size Retail Trade. Expenditures on local resident's Health Care are rarely perceived to be high because a large portion of health care bills is absorbed by health insurance companies and government programs (Medicare and Medicaid). Since financing local residents' health care is intermediated by a chain of other auxiliary companies, health care financing spills positively into the sector of Finance and Insurance discussed above. At the same time, health care insurance premiums are collected by health insurance companies from employers and employees alike. Similarly, Medicare taxes that are payable by employees and employers are a component of labor costs. Thus, region residents' direct payments to their health care providers is only a small portion of the overall health care costs. For lower income households and households with health problems, overall health costs could be substantial (regardless of who pays). Also, given that health care is a necessity rather than luxury for most Toledo region residents, any boost in disposable income has an immediate positive impact on sectors such as Health Care. In addition, the Toledo Community Foundation supports several initiatives that directly contribute to the economic impact in the local Health Care sector. For example, Lucas County Initiative to Improve Birth Outcomes is a significant issue given that the United States is the only developed country with high infant mortality rates that are typical of third-world countries, and the Toledo region's mortality rates are elevated even by national and state standards. The key component of TCF initiative is to identify at-risk pregnant women and enroll them in a comprehensive (prenatal care plus social services) program supporting the birth of a healthy baby. Another relatively low-cost but efficient program is Oral Health Services for Young Children. This program establishes the Dental Resource Center with the task of specifically providing oral care services to children from birth to five years of age [TCF, 2017]

Job creation is an important aspect of economic impacts of Toledo Community Foundation. As discussed earlier in the report, the key reason for this is that gainful employment is the most significant component in the region's economic profile, and the region has a relatively higher proportion of employed among its population (Table 2). Since other sources of income are not as common in the Toledo region as they are in the US, job-creation is vital in the foreseeable future for the prosperity of the regional economy.

Table 5. Job creation in the Toledo region from TCF activities, by sectors, full-time equivalent jobs, 2018

Description	Jobs
TOTAL	454.6
Agriculture, Forestry, Fishing	0.1
Mining	0.0
Utilities	0.8
Construction	1.7
Manufacturing	1.1
Wholesale	3.2
Retail Trade	15.8
Transportation & Warehousing	5.8
Information	7.9
Finance and Insurance	87.3
Real Estate, Renting, Leasing	6.9
Professional, Scientific, and Technical Services	21.8
Management	1.0
Administrative and Support, Waste Management, Remediation	19.2
Educational Services	6.7
Health Care and Social Assistance	21.7
Arts, Entertainment, and Recreation	4.6
Accommodation and Food Services	22.0
Other Services	174.0
Government and Government Enterprises	53.0

Job creation follows the flow of economic output, so that industries with higher impact in output are typically accompanied by a higher impact in job creation. Table 5 summarizes the employment aspect of the economic impact in the local economy (job creation). The data aggregate all full-time and part-time jobs, so that the total impact is reported as FTE (full-time equivalent) jobs. The total number of jobs created is 454.6 full-time equivalent jobs. Most of these jobs are in sector Other Services (174 FTE jobs), which includes grantmaking, giving, and social advocacy organizations as well as services that were not included elsewhere. The largest portion of these jobs are the first-order, direct impacts of TCF's activities. In contrast, job creation in all other sectors are purely indirect and induced effects – jobs that are created in the local economy as a response to an increased demand for locally provided goods and services. In this respect, Finance and Insurance registers about 87.3 FTE jobs. This is by far the largest sector-beneficiary of economic impacts in terms of job creation (beside Other Services). The next largest beneficiary is Government and Government Enterprises (53 FTE jobs). It should be noted that most of these jobs are in state and local governments with most of the jobs created in education (public schools). The next four largest sector-beneficiaries altogether gain about as

many jobs as Finance and Insurance. Specifically, these sectors are Professional, Scientific, and Technical Services (21.8 FTE jobs), Accommodation and Food Services (22.0 FTE jobs), Health Care and Social Assistance (21.9 FTE jobs), and Administrative and Support, Waste Management, Remediation (19.2 FTE jobs). The industrial composition of job creation embraces several sectors and is rather diversified across the entire economy. Most of these gains improve the diversification of the regional economy and the composition of the local economy. It should be noted that all jobs created are responses to a rise in local demand, so Manufacturing, Management, and Information show smaller numbers than what would be suggested by the composition of local employment. However, given that most manufacturing is associated with an extra-regional car manufacturing and car parts manufacturing, these sectors are not strongly involved in the local economic impact of TCF's grantmaking and other activities.

Table 6. Productivity (value-added) per additional worker by industry, select industries, thousand dollars per job

Description	Productivity
AVERAGE	132.9
Retail Trade	78.5
Transportation & Warehousing	147.3
Information	339.7
Finance and Insurance	174.9
Real Estate, Renting, Leasing	588.7(*)
Professional, Scientific, and Technical Services	132.7
Administrative and Support, Waste Management, Remediation	73.4
Educational Services	49.6
Health Care and Social Assistance	118.7
Arts, Entertainment, and Recreation	70.4
Accommodation and Food Services	53.9
Other Services	133.2
Government and Government Enterprises	23.0
<i>Note:</i>	
<i>(*) Productivity in Real Estate is artificially inflated because DIY home improvement projects and owner-occupied consumption of Real Estate do not involve employment</i>	

Regarding the jobs created in the wake of the economic impact of TCF, they are not all created equal. For example, jobs in Finance and Insurance and Professional, Scientific, and Technical Services are “good jobs”; these jobs pay relatively well, but require certain levels of education or experience and these sectors are less sensitive to economic downturns. Double-digit gains in jobs in Retail Trade (15.8 FTE jobs) and Accommodation and Food Services (22 FTE jobs) are not as good; these jobs pay less than the average and are very sensitive to economic downturns or

subject to competitive pressure, and workers might find themselves easily displaced for various reasons (reorganizations, cost-cutting technological innovations, etc.). Some jobs in retail sector pay so little that some families holding said jobs are barely able to clear the official poverty level. In contrast, jobs in Finance and Insurance and Health Care sectors keep rising in the region as well as the state and the nation.

Table 6 lists the marginal productivity per worker by industry. The marginal productivity is computed as the change in the value-added generated by the industry (industry's contribution to region's GDP) divided by the change in the number of workers attributed to this industry. The total value-added across all industries is equivalent to the region's GDP (with some technical adjustments, discussion of which is not relevant for this report). Industries that generated fewer than 4 workers are excluded from this Table in order to avoid misleading results due to rounding errors. The average productivity per additional created job in Toledo region is \$132.9 thousand. This is by one-third higher than the average productivity per worker in Toledo region in 2018, which is \$95.1 thousand (\$38,143 million in regional GDP divided by 400.9 thousand jobs in the region). Table 6 indicates that due to TCF's activities, the composition of the regional economy slightly shifted toward a stronger presence of productive industries and thus making the regional economy more prosperous.

In most sectors (except Government) the value-added per worker exceeds worker compensation because value-added mostly consists of labor costs plus business profits and taxes. Thus, productivity per worker is somewhat indicative of the wages paid in new jobs. There is no precise correspondence between the two because some jobs can be reclassified into higher-paid positions due to an increase in demand for locally produced goods and services. However, as a tendency, higher value-added leads to higher labor compensation. The sectors that bring in higher value-added per worker are Transportation and Warehousing (\$147 thousand), Information (\$339 thousand), Finance and Insurance (\$175 thousand), Real Estate, Renting, and Leasing (\$589 thousand), Other Services (\$133 thousand). Also, two additional sectors bring in jobs that are more productive than the current average in the region (\$95 thousand in 2018): Professional, Scientific, and Technical Services (\$133 thousand), and Health Care and Social Assistance (\$118 thousand). As a consequence of being productive, these sectors generate relatively well-paying jobs.

Real Estate is a unique sector because owner-occupied housing is responsible for large portion of household consumption without corresponding employment; only commercial residential properties typically involve steady employment (mostly as maintenance workers, custodial jobs, accounting, etc.). Hence, the productivity in Real Estate – as it is computed in this report – is skewed because it is affected by the productivity of workers in the commercial residential real estate and the fraction of owner-occupied residential housing. In this case, it is not as much indicative of the productivity per worker as the fraction of owner-occupied housing among

region's residents. In other words, if an increase in Real Estate in the course of economic impact was purely commercial (increase in renting and leasing without any increase in owner-occupied housing), then the increase in Real Estate consumption would have been associated with the corresponding increase in employment. Very high numbers in Table 6 against Real Estate, Renting, and Leasing should read as indications that the number of owner-occupied housing is increasing due to TCF. For example, in 2018, contribution of Real Estate, Renting, and Leasing to the Toledo region's GDP is \$4,594 million (Table A1) while the employment in the sector is 15.52 thousand (Table A2), which gives average productivity in the sector in 2018 as \$296.0 thousand. In comparison, \$588.7 thousand per worker as reported in Table 6 suggests that due to economic impact, owner-occupied housing is increasing faster than rentals, so the fraction of owner-occupied housing is increasing.

Overall, the created jobs on average are more productive than average existing jobs in the region (\$133 thousand against \$95 thousand per worker), and most jobs are in service sectors and attributed to faster-growing industries.

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Appendix

Table A1. Gross Domestic Product (GDP) of Toledo Metropolitan Statistical Area, millions of current dollars (not adjusted for inflation)

Description	2016	2017	2018
TOTAL GDP	34719.2	35978.9	38143.1
PRIVATE INDUSTRIES	30825.8	32067.6	34119.4
Agriculture, forestry, fishing and hunting	36.0 (1)	65.9	128.8
Mining, quarrying, and oil and gas extraction	77.3	75.3	81.1
Utilities	168.4 (1)	976.5	1111.0
Construction	1533.3	1513.1	1501.4
Manufacturing	7617.5	7889.8	9111.3
– Durable goods manufacturing	4904.2	4677.2	5002.0
– Nondurable goods manufacturing	2713.4	3212.6	4109.3
Wholesale trade	1,865.8 (1)	1,918.8 (1)	1,997.0 (1)
Retail trade	2315.9	2483.8	2447.5
Transportation and warehousing	1,165.2 (2)	1,226.8 (2)	1,316.5 (2)
Information	684.3	692.9	673.5
Finance, insurance, real estate, rental, and leasing	6076.5	6184.7	6279.2
– Finance and insurance	1566.3	1583.8	1685.1
– Real estate and rental and leasing	4510.2	4600.9	4594.1
Professional and business services	2,962.7 (2)	3,120.5 (2)	3391.1
Administrative and support and waste management and remediation services	915.3	954.2	1007.0
Educational services, health care, and social assistance	3569.8	3,568.9 (1)	3,731.8 (1)
– Educational services	216.9 (2)	(1,2)	219.4 (1,2)
– Health care and social assistance	3,237.3 (2)	3,239.1 (1,2)	3,387.5 (1,2)
Arts, entertainment, recreation, accommodation, and food services	1307.7	1348.7	1,364.4 (2)
– Arts, entertainment, and recreation	385.9	386.1	388.5 (2)
– Accommodation and food services	921.8	962.6	975.9 (2)
Other services (except government and government enterprises)	719.1	740.5	751.4
GOVERNMENT AND GOVERNMENT ENTERPRISES	3893.4	3911.2	4023.7
<i>Notes:</i>			
(1) Excludes Ottawa county levels to avoid disclosure; instead, they are merged with Other services.			
(2) Excludes Fulton county levels to avoid disclosure; instead, they are merged with Other services.			

Table A2. Total Full-Time and Part-Time Employment in Toledo MSA, thousands of jobs

Description	2016	2017	2018
TOTAL EMPLOYMENT	397.04	395.99	400.94
EMPLOYMENT: BY TYPE			
Wage and salary employment	330.07	327.73	330.76
Proprietors employment	66.97	68.26	70.18
Farm proprietors employment	2.65	2.65	2.65
Nonfarm proprietors' employment	64.32	65.62	67.54
EMPLOYMENT: BY INDUSTRY			
Farm employment	3.79	3.59	3.65
Private nonfarm employment	344.63	344.11	348.98
Construction	19.76	20.17	20.47
Manufacturing	47.93	46.29	48.63
Wholesale trade	13.51	13.52	13.39
Retail trade	40.31	39.68	39.16
Information	3.8	3.84	3.77
Finance and insurance	14.11	13.93	14.4
Real estate and rental and leasing	14.88	15.14	15.52
Administrative and support and waste management and remediation services	24.06	23.74	24.17
Arts, entertainment, and recreation	8.86	9.07	(D)
Accommodation and food services	31.68	31.96	(D)
Other services (except government and government enterprises)	21.1	21.13	20.95
Government and government enterprises	48.62	48.29	48.32
Federal civilian	2.41	2.43	2.42
Military	1.75	1.74	1.74
State and local	44.47	44.12	44.16
State government	15.64	15.34	15.28
Local government	28.83	28.78	28.88
<i>1/ The estimates for 2011-2016 are based on the 2012 NAICS. The estimates for 2017 forward are based on the 2017 NAICS.</i>			
<i>Metropolitan Areas are defined (geographically delineated) by the Office of Management and Budget bulletin no. 18-04 issued September 14, 2018.</i>			
<i>(D) Not shown to avoid disclosure of confidential information; estimates are included in higher-level totals.</i>			
<i>Last updated: November 14, 2019-- new statistics for 2018; revised statistics for 2001-2017.</i>			

Table A3. Economic Profile of Toledo MSA, Ohio, and USA

Description	Toledo, OH – MSA			Ohio	USA
	2016	2017	2018	2018	2018
Place of residence profile					
Personal income (millions of dollars)	28,230	28,787	30,166	569,727	17,813,035
Derivation of personal income					
Net earnings by place of residence	17,926	18,179	19,050	360,138	11,159,450
Personal current transfer receipts	6,035	6,184	6,346	109,537	2,971,451
Income maintenance benefits 1/	576	561	552	9,053	259,860
Unemployment insurance compensation	55	58	53	871	27,569
Retirement and other	5,405	5,565	5,741	99,613	2,684,022
Dividends, interest, and rent 2/	4,269	4,424	4,771	100,052	3,682,134
Population (thousands) 3/	645	644	644	11,676	326,687
Per capita incomes (dollars)					
Per capita personal income 4/	43,742	44,668	46,868	48,793	54,526
Per capita net earnings 4/	27,776	28,208	29,597	30,843	34,159
Per capita personal current transfer receipts 4/	9,352	9,595	9,859	9,381	9,096
Per capita income maintenance benefits 4/	892	871	858	775	795
Per capita unemployment insurance compensation 4/	86	89	82	75	84
Per capita retirement and other 4/	8,374	8,635	8,919	8,531	8,216
Per capita dividends, interest, and rent 4/	6,614	6,864	7,412	8,569	11,271
Place of work profile (millions of dollars)					
Earnings by place of work	21,192	21,498	22,518	406,562	12,510,655
Wages and salaries	15,163	15,397	16,113	291,690	8,879,507
Supplements to wages and salaries	3,810	3,872	4,063	70,536	2,032,454
Employer contributions for employee pension and insurance funds 5/	2,693	2,717	2,890	49,723	1,410,694
Employer contributions for government social insurance	1,116	1,155	1,173	20,814	621,760
Proprietors' income	2,220	2,228	2,342	44,336	1,598,694
Farm proprietors' income	-7	-7	12	593	37,143
Nonfarm proprietors' income	2,226	2,235	2,330	43,743	1,561,551

Total employment (thousands of jobs)	397	396	401	7,093	200,746
Wage and salary employment	330	328	331	5,670	154,375
Proprietors employment	67	68	70	1,422	46,371
Farm proprietors' employment 6/	3	3	3	71	1,790
Nonfarm proprietors' employment	64	66	68	1,352	44,581
Average earnings per job (dollars)	53,377	54,289	56,162	57,319	62,321
Average wages and salaries	45,939	46,983	48,714	51,440	57,519
Average nonfarm proprietors' income	34,616	34,059	34,496	32,355	35,027
Legend / Footnotes:					
1/ Consists largely of Supplemental Security Income (SSI) payments; Earned Income Tax Credits (EITC); family assistance; general assistance; expenditures for food under the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC); Supplemental Nutrition Assistance Program (SNAP); and other assistance benefits.					
2/ Rental income of persons includes the capital consumption adjustment.					
3/ Census Bureau midyear population estimates. Estimates for 2010-2018 reflect county population estimates available as of March 2019.					
4/ Type of income divided by population yields a per capita measure for that type of income.					
5/ Includes actual employer contributions and actuarially imputed employer contributions to reflect benefits accrued by defined benefit pension plan participants through service to employers in the current period.					
6/ Excludes limited partners.					
Metropolitan Areas are defined (geographically delineated) by the Office of Management and Budget bulletin no. 18-04 issued September 14, 2018. Toledo MSA includes Lucas, Fulton, Ottawa, and Wood Counties, OH.					
Note-- All dollar estimates are in thousands of current dollars (not adjusted for inflation). Calculations are performed on unrounded data.					
Last updated: November 14, 2019-- new statistics for 2018; revised statistics for 1969-2017.					