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**In the Hamilton Superior Court Number 2
State of Indiana**

Stephen R. Fischer and Maryjane Fischer,)	
)	
Plaintiffs,)	
)	
vs.)	Cause No. 29D02-0508-CT-701
)	
William E. Whitson, MD, Meridian)	
Ophthalmology, PC, and Lanter Eye Care & Laser)	
Surgery, PC formerly known as Kane-Lanter Eye)	
Care and Laser Vision Centers, PC)	
)	
Defendants.)	

Affidavit of David Gibson, MBA, CPA, and Edward P. Berlá, PhD

COME NOW, David Gibson, MBA, CPA, and Edward P. Berlá, PhD, being first duly sworn upon their oaths state the following:

Defense has filed a motion to exclude our testimonies. This motion centers around the following key areas:

1. Dr. Berla's Qualifications
2. Reliability of the Methodology
3. Validity of the Data
4. Fit of the Data with the Facts of the Case

Each of these points is refuted in the discussion that follows.

1. Introduction

Defense discusses IRE 702 to show that my opinion needs to be based on reliable principles and methods and that it must "fit" the facts of the case. We agree. The requirement of IRE 702 is in keeping with my assessment regarding Mr. Fischer. This is true both in the context of understanding the evidence of disability and in determining the work-related impact of that disability.

What the defense seems to want is absolute knowledge of Mr. Fischer's future. This, of course, is not possible for anyone. In the absence of a crystal ball, it is necessary to estimate based on appropriate population statistics that are applied to the facts of Mr. Fischer's case. As Marcia Angell noted in *Science on Trial* (1997, p.115):

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Courtroom trials are not about populations, they are about individuals. . . . We have no basis, at least in the current state of knowledge, for making a judgment about a particular woman. We therefore *must* appeal to epidemiological data – that is, studies of populations.

The United States Supreme Court addressed this very concern in *Jones and Laughlin Steel Corporation v. Howard E. Pfeifer* 462 U.S. 523 (1983), where they noted the impossibility of producing statistics that exactly match the plaintiff’s future:

By its very nature the calculation of an award for lost earnings must be a rough approximation. Because the lost stream can never be predicted with complete confidence, any lump sum represents only a “rough and ready” effort to put the plaintiff in the position he would have been in had he not been injured.

The Court went on to deride attempts at coming up with such statistics:

We do not suggest that the trial judge should embark on a search for “delusive exactness.” It is perfectly obvious that the most detailed inquiry can at best produce an approximate result.

Our education and experience provide us with specialized knowledge pertaining to the immediate and ongoing needs of persons with disability in finding and maintaining employment. In addition, data are available from the U.S. Census Bureau that pertain specifically to the earnings and worklife expectancy of persons with and without disability. These data are analyzed in various government publications and professional articles, demonstrating the impact of disability on earnings and employment (worklife). This combination of education, experience, and technical data enables us to assess the loss of lifetime earnings of Mr. Fischer in a way that is beyond the realm of common knowledge.

2. Dr. Berlá’s Qualifications

Defense criticizes Dr. Berlá’s qualifications, stating that he has “only” a degree in psychology, is not a medical doctor, and can perform no independent medical testing. The following sections will discuss not only the difference between medical and vocational testimony, but also Dr. Berlá’s overall qualifications and his unique qualifications for this case to assess the vocational impact of Mr. Fischer’s vision impairment.

2.1. Medical versus Vocational Testimony

Defense criticizes Dr. Berlá’s expertise, appearing to believe that, because he is not a medical doctor, he should not be allowed to testify regarding Mr. Fischer’s disability. Defense confuses the training and expertise of the medical and vocational disciplines. A medical degree is necessary to make a medical diagnosis and opine to the permanency of physical limitations. However, it is the province of a vocational expert to translate these medically determined limitations into the expected impact for the plaintiff in his or her employment (current or future). Medical impairments cannot translate into vocational or economic opinions by themselves. They must be translated into vocationally-relevant data by experts knowledgeable about the world of work and the effects of impairments on ability to work.

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Dr. Berlá's knowledge, skill, experience, training, and education all combine to qualify him as an expert. For this case, he offers the court vocational expertise on the expected impact of disability on Mr. Fischer's annual earnings and worklife expectancy. This expertise requires knowledge of available statistics and how disabilities impact a person's ability to perform work and earn money. These are the skills that Dr. Berlá has used continuously. He has years of experience working with people with disabilities and as a vocational expert with the U.S. Department of Health and Human Services, Social Security Administration. It is with this experience that he examines the limitations identified to analyze their impact on the plaintiff's ability to function in the workforce.

2.2. Dr. Berlá

Dr. Berlá's opinion regarding Mr. Fischer's earning capacity and worklife expectancy is a vocational and statistical issue. He understands both of these issues thoroughly and is well qualified to address them.

Dr. Berlá has bachelor's, master's, and doctorate degrees in psychology and post-doctoral training in economics (see Attachment A). As a psychologist, he had extensive course work in statistical analysis and research design. For approximately the last 20 years, he has been a consultant with Vocational Economics, Inc., where he has evaluated hundreds of persons in terms of their capacity to labor and earn and the loss of earning capacity over a lifetime. He has qualified as a vocational economic analyst on numerous occasions in both federal and state courts in at least eleven states.

Dr. Berlá has worked for 25 years within the field of disability as a researcher, psychologist, and university professor. In his capacity as a university professor in the Department of Special Education from 1975 to December 2000, he taught courses on the impact disabilities have on persons' lives, including vocational, psychological, social, and educational effects, including the effects of visual impairment and blindness. In the area of vision impairment and blindness, Dr. Berlá taught several courses, including courses that covered anatomy and physiology of the eye with the assistance of both an optometrist and ophthalmologist; functional visual assessment; psychological, social, and visual implications of low vision; daily living activities and low vision implications; and adaptive equipment and procedures. He also taught courses on research analysis, research design, and statistics and has authored and co-authored numerous publications involving disability and its vocational impact.

Particularly pertinent to this case, Dr. Berlá worked as a behavioral research scientist and statistical consultant at the American Printing House for the Blind. He served as Chairman of the Board at the Kentucky School for the Blind for at least eight years and has personally worked with children and adults with blindness or visual impairment.

Furthermore, Dr. Berlá was certified and worked from 1990 until 1999 as a Vocational Expert for the Federal Government at the Social Security Administration - Bureau of Hearings and Appeals. In that capacity, he testified in hearings in front of an Administrative Law Judge (ALJ) regarding the jobs in the local, state, and national economies that a person could perform given specific physical or mental limitations.

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This practical experience provided Dr. Berlá with expertise in the areas of career patterns, worklife expectancies, the effect of disability on ability to work and find jobs, earning capacity of individuals with and without disability, the labor market, and the world of work in general. He has approximately 20 years of experience in applying those concepts to actual cases. Over this time, he has kept up with the literature in the area of loss of earning capacity.

This education and experience provide Dr. Berlá with specialized knowledge pertaining to the effect of disability on an individual's ability to find and maintain employment. This education and experience, especially when combined with statistical data available from the U.S. Census Bureau, render him uniquely qualified to assess the loss of lifetime earnings of Mr. Fischer.

3. Reliability of the Methodology

Defense contends that our opinions are not valid because they are based on unreliable methodology and on flawed government data. They state that the methodology is too general and that the opinions contain generalizations and averaging that make them unreliable. These contentions make it clear that the defense does not understand the nature of a lost earnings analysis or the data upon which such analyses are based. In fact, the methodology we employed was explicitly addressed in a recent peer-reviewed article specifically addressing assessment of earning capacity (see Attachment B). The article discusses the assessment of annual earning capacity, worklife expectancy, and lifetime loss.

When we are retained as expert witnesses for cases such as Mr. Fischer's, we are asked to estimate the loss of earning capacity that plaintiffs will sustain over their lifetimes as a result of disability. As noted by the U.S. Supreme Court (see Introduction), this is not an exact calculation; at best, the estimate is a "rough approximation." What is necessary in this case is that we consider specifics relating to Mr. Fischer (e.g., age, education, work history, work-related limitations) in combination with relevant population statistics to derive the most reasonable estimate possible. This is what we have done in estimating his lost earnings.

As expert witnesses in this case, we have been asked to assess Mr. Fischer's loss of earning capacity resulting from a disability sustained in August 2001. In conducting this assessment, therefore, the most relevant issue is Mr. Fischer's loss of lifetime earnings considering this disability. The most relevant data, then, must be those that specifically address this issue, those that measure the differences in earnings and employment between people with and without disability, referenced by gender and an education level consistent with Mr. Fischer's. This is what we have done in this assessment. Doing this ensures that the analysis addresses the needs of the court.

3.1. Peer Review

Defense criticizes our methodology, particularly worklife expectancy statistics for individuals with disability, by stating that most articles written supporting the worklife statistics are written by individuals associated by Vocational Economics, Inc. (VEI). Defense also places great weight on one peer-reviewed article that criticizes our use of US Census Bureau disability data. They fail to note that the VEI-authored and non-VEI articles favorable to worklife expectancy,

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the methodology used to develop worklife expectancy, and the government data used all are supported by other peer-reviewed articles of a forensic or non-forensic nature. Peer-reviewed journals give an outlet for professional discussion; they are not necessarily the universally accepted ideas/methods in the field.

Worklife tables and the CPS data used to measure employment rates of persons with a work disability are the subject of multiple articles. The bibliographies are a partial listing of these articles and include listings of articles pertaining to the worklife tables themselves (see Attachment C), the methodology underlying The Tables (see Attachment D), and the use of CPS data by government and nonforensic researchers (see Attachment E and Section 4.7). The bibliographies show that the worklife tables have been reviewed in professional journals and that the CPS disability data have been used by researchers for both forensic and nonforensic purposes.

Two of the supportive articles noted in Attachment C were written by non-VEI individuals. John Johnson wrote an article entitled “Assessing Risk in Enhanced Earnings Valuations.” In it, he discusses the value of VEI’s worklife expectancy statistics and of the Life, Participation, Employment method of calculating worklife expectancy for calculation of enhanced earnings in matrimonial litigation. In addition, Misra, Bua-lam, and Majumder wrote an article discussing the value of the worklife statistics when performing benefit-cost analyses of rehabilitation programs.

3.2. General Acceptance

In their motion, Defense attempts to undermine our testimony by misstating, “Mr. Gibson admitted that the VEI methodology is not accepted within the economic community. (Exhibit C, p. 100).” In actuality, the exchange dealt, as follows, with the use of American Community Survey data (p. 101, lines 10 – 21):

Q. Are you aware of any similar disagreements with the use of the – is it ACS?

A. Yes.

Q. -- with the use of ACS?

A. No.

Q. Is it your opinion that that’s universally accepted – that’s a universally accepted method in the community?

A. As I said before, there’s nothing that’s universal in forensic economics.

The key word here is “universal,” an important word left out of defense’s motion. As noted in Mr. Gibson’s deposition, no element of vocational or economic expert opinion testimony is universally accepted.

Forecasting a plaintiff’s future earnings stream is not an exact science. “General acceptance” does not require universal or majority usage in the scientific community. There is no single

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step in the loss computation process that enjoys universal acceptance in the vocational and economic communities. As such, it is predictable that experts may disagree on the method for computing lost earnings. This is true of defining earning capacity, computing worklife expectancy, projecting earnings growth, and determining discount rates. However, the underlying data and computational methodology used by Dr. Berlá all have substantial (general) acceptance throughout the vocational, economic, and disability research communities.

4. Validity of the Data

In conducting the assessment regarding Mr. Fischer's loss of lifetime earnings, we used data from two US Census Bureau surveys – the Current Population Survey (CPS) and the American Survey (ACS). This resulted in four separate analyses estimating his lifetime loss – two using CPS data (one in which he remains totally disabled, one in which he retains a capacity to work) and two using ACS data (with the same two possibilities). In stating their criticisms, defense deals primarily with the CPS, and with the ACS for only a few issues.

In citing criticism of the CPS data, defense's motion also implies that these criticisms are also directed at the ACS. Though there are articles criticizing the CPS disability data, as acknowledged, there are no articles criticizing the ACS. Therefore, since most all of the criticisms regarding the data are directed toward the CPS, the sections that follow will focus mostly on the CPS as well.

4.1. Census Bureau Caveat

Defense contends that the Census Bureau website and particularly the presence of a paper entitled "Uses and Limitations of CPS Data on Work Disability"¹ discussing possible limitations of CPS work disability data precludes use of the data. As titled, the document does discuss uses and limitations of CPS data. As noted in the text, however, this is intended to be a caveat regarding the data, not a document precluding their use. As noted on page 3 of the paper, "data users have to look at the questions and the use to which they plan to put the data to determine the adequacy for the purpose at hand." Therefore, the paper simply cautions the user to be aware of the impact of potential errors in the survey, a wise caution before using any survey data.

Similar caveats apply to any survey. In fact, the Bureau of Labor Statistics has an even stronger warning regarding the widely-used *Occupational Outlook Handbook* (OOH). This caveat states that the OOH should not be used to compute future lost earnings in adjudication proceedings. Despite this, many expert witnesses continue to see the earnings data as valuable and continue to use them, in combination with their experience and expertise, to calculate lost earnings. Just as we recommend with the CPS data, the user must understand the source and limitations of the data and adjust their use of it accordingly.

It is important for users to understand the potential imperfections in order to be able to use data most effectively. Understanding the issues can enable an expert to use CPS (or OOH) data as

¹ www.census.gov/hhes/www/disability/cps/cpstablexplanation.pdf

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one element in calculating losses in individual cases. We have extensive expertise with the CPS and ACS and are able to apply our education and experience to their appropriate use. A fuller discussion of specific points mentioned in the Census website document can be found in the other sections of this affidavit:

- Validity/Purpose of the Data in Section 4.2
- Self-Reported Disability in Section 4.3
- Validity of the First Disability Question in Section 4.4

4.2. Validity/Purpose of the Data

Defense contends that the CPS data are not intended to identify people with a disability. The CPS survey is the primary source of employment data for persons in the United States, and the source of the government's monthly unemployment rates that are widely quoted by the media. In March of each year beginning in 1981, the CPS has been expanded to collect more information on income and employment. This supplement forms the basis for the rates of participation and employment used in the worklife expectancy calculations through expanded questions that specifically address work disability.

The contention that the CPS was not intended to identify work disability is clearly wrong. The Census Bureau began publishing data from the March Supplement in 1983 in a publication entitled *Labor Force Status and Other Characteristics of Persons with a Work Disability: 1982*. The beginning of the publication addresses the issue of measuring the experiences of persons with disability:

One of the issues that this country has tried to address through the Federal statistical system is the extent to which persons with a disability are able to participate in the labor force. Programs and policies have been established to discourage discrimination and encourage training and rehabilitation, but the success of these programs and policies cannot be measured without some type of statistical monitoring system. Statistics on persons with a disability are obtained from two sources: program statistics and household surveys. While the former source is critical for certain purposes, the basic unit in a statistical monitoring system must be household surveys. Only through household surveys is it possible to obtain estimates of the number of persons with a disability and learn how their situation changes over time.

Recent changes to the questionnaire used in the March Income Supplement to the Current Population Survey (CPS) make it possible for the March CPS to be used as a source of information on the labor force status and other characteristics of noninstitutional persons with a work disability. (p. 1)

In the 1989 publication *Labor Force Status and Other Characteristics of Persons With a Work Disability: 1981 to 1988*, the Census Bureau expands on the reasoning behind these questions:

According to Saad Nagi, a major figure in the development of survey data on persons with disabilities, a person has a disability if he or she has a limitation in the ability to perform one or more of the life activities expected of an individual within a social environment. The primary way this basic concept is operationalized in the March CPS is to ask whether any household member has a health problem or disability which prevents them from working or which limits the kind or amount of work they can do. (p. 1)

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Beginning in 1995, the Census Bureau began annual updates to its website giving employment rates and earnings for people with and without work disability based on CPS data. These have continued since that time, despite the criticisms raised by defense supposedly precluding their use.

4.3. Self-Reported

Defense contends that, since disability for those responding to the CPS and the ACS is self-reported and not independently verified, one cannot say with certainty that the work or sensory disability data are accurate. Respondents could be influenced by other factors, such as current employment status.

What defense suggests in this position is a study that would be so enormous as to be impossible. Acquiring independent verification from the thousands of people interviewed would be very difficult, at best, and probably impossible. In those cases of persons identified as having physical, mental, or sensory impairment, it would require an independent medical evaluation of the selected sample in order to resolve the bogus issue of self-reporting error. All survey research of a macro nature relies on self-report, but the large sample size reduces, if not eliminates, the supposed problem regarding errors in self-reporting. In fact, Stern (1989) tests for this problem by measuring labor force participation using self-reported disability. He finds that any potential bias is small and that “the standard disability measures are powerful and reasonably exogenous predictors of labor force participation” (p. 392).

The surveys rely upon self-reported answers from respondents. As such, the criteria used by the Census Bureau to classify a respondent’s disability status depend upon

- the respondent’s ability to recognize the disability, and
- the truthfulness of the response

Critics speculate that one or both of these requirements are not met in enough cases as to skew the results. The CPS is the *primary* source of employment data for the United States. The entire survey is self-reported. Despite this, it is relied upon by researchers, economists, demographers, and other scientists across the world for measurements of employment, earnings, education status, age, and other characteristics of the US economy. The ACS, though much newer than the CPS, is also being used by independent researchers to study the same issues. Conducted by the US Census Bureau:

The American Community Survey is a new nationwide survey designed to provide communities a fresh look at how they are changing. It will replace the long form in future censuses and is a critical element in the Census Bureau’s reengineered 2010 census plan.²

The government does not require a CPA to verify the income reported, employers to verify employment status, or birth certificates to verify age. Yet, vocational and economic experts and social scientists in general routinely rely upon the resulting income, employment, and age

² www.census.gov/acs/www/index.html.

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statistics both in forensic and nonforensic settings. However, when it comes to the CPS and ACS questions on work and physical disability, challengers contend that respondents are incapable of or unwilling to give an accurate response. This is a nonsensical double standard. Those who contend that self-reporting is a problem themselves routinely use such data specific to earnings, level of education, and age.

4.4. Validity of the First Disability Question

A key criterion in screening for work disability is this question from the Current Population Survey (CPS) survey:

(Do you/Does anyone in this household) have a health problem or disability which prevents (you/them) from working or which limits the kind or amount of work (you/they) can do?

Defense contends that this question is invalid because it is ambiguous and that people may knowingly or unknowingly respond incorrectly. This question, however, was based on work done by the Social Security Administration (McNeil, 2002; included in Attachment C) and is accepted as a valid one as shown by the fact that an almost identical question is used as the cornerstone in another major survey, the Survey of Income and Program Participation (SIPP), also conducted by the Census Bureau. Similar questions are asked in the National Health Interview Survey, conducted by the U.S. Census Bureau for the U.S. Department of Health and Human Services, and the Panel Study of Income Dynamics, conducted at the Survey Research Center, Institute for Social Research, University of Michigan.

Statistical analysis of CPS data (Gibson, 2001; Attachment C) demonstrates that 81% of those responding positively to this question also responded positively to one of the other six questions comprising the complete work disability definition.³ Of the remaining 19%, the overall rate of employment is .77 – in line with the overall Not Severely Disabled rate of .73, and well below the Not Disabled rate. If the question were as ambiguous as defense claims, one would not expect such consistency in responses specific to probability of employment.

4.5. Heterogeneity

Defense contends that the population of those with a disability is so diverse that application to a particular individual is difficult to impossible.

Heterogeneity is a statistical term referring to the diversity of the population averaged to derive the disability statistics. We agree that the population of those with a specific impairment is quite diverse. However, it is incorrect to surmise that this precludes the use of a statistic drawn from this population.

We further believe that any statistic applied should be applied appropriately. In cases concerning the assessment of lost earnings and worklife, the expert should rely on medical

³ The complete work disability definition can be found at:
<http://www.census.gov/hhes/www/disability/disabcps.html>

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reports verifying the impairment and apply the appropriate “vocational scrutiny” to assess the impact of the impairment, if any, on the individual’s ability to work. The critical vocational issue is whether an impairment exists that limits or is likely to limit the individual in terms of the amount or kind of work he or she is capable of performing. Work disability data from the CPS regarding employment should be used only if the individual has a work disability, regardless of the severity of the impairment.

The solution for some critics of disability statistics is to use earnings and worklife statistics that are not specific to disability at all. It is clear that this is not a reasonable solution as it uses statistics from a much broader and more diverse population than the disability specific data. Most importantly, it ignores what is known about persons with a disability. They experience lower levels of earnings and employment and, hence, a reduction in worklife expectancy and lifetime expected earnings.

When predicting the height of a 5-year-old boy, should one use an average of all people or of 5-year-old boys? Similarly, when predicting the employment experience of, for instance, a female with a nonsevere work disability, should one use an average of all people or of females with a nonsevere work disability?

Most forensic economists routinely project earnings and employment based upon education. Categorization by education results in averages from diverse populations. Imagine, for example, averages for persons with a baccalaureate degree. These degrees may range from an Accountant/CPA or Mechanical Engineer to a Social Worker, or lead to occupations ranging from a CEO of a large corporation to a minister. Obviously, these occupations have a wide range of expected earnings. Yet, despite the diversity, this average is accepted and used by many economic and vocational experts, as it is the most appropriate predictor in many cases – such as a college freshman who had not yet determined an area of focus. Allowing use of a broad education average while not allowing a more narrowly defined disability-specific education average is a nonsensical double standard.

4.6. Sample Selection Bias

Defense contends that data from the CPS are invalid because of sample selection bias – that, since the CPS does not randomly and independently sample people with a work disability, the data derived from it are invalid.

It is true that people with a work disability are not randomly sampled. The CPS in general, however, is based on a large sample size that is statistically stratified (over 50,000 households and 100,000 people). The overall sample size is large enough that data from the subpopulation is reliable. If this were a problem, we would expect to see greater variability in employment rates from year to year. The stability of these rates over time lends credence to the value of the work disability sample.

The criticism contradicts the frequent use that many vocational and economic experts make of the CPS data. The sampling and weighting procedures in the CPS are based primarily on geographic area, household type, unemployment ratios, age, gender, race, and Hispanic origin. Education is not a part of this procedure. Despite this, many forensic experts value the CPS

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data and use average earnings and employment by education level in order to estimate lifetime earning capacity. Based on the Skoog and Toppino (2002) criticism, however, this is wrong. This criticism, then, appears to be carrying the sampling need to extremes with the sole purpose of denigrating the CPS disability data.

Skoog and Toppino (2002) state that disability surveys are only useful if they are extremely specific in their sampling methods. They note:

For their Tables to have any validity, their statistics must be based on sensible (read statistically *consistent* at a minimum, if not statistically *unbiased or efficient*) structural parameter estimates. They must answer the question *if one has this education, sex, age, and impairment/condition, what is the conditional probability such a person will be employed?* (Emphasis in original; p. 85)

This is an impossible solution to the issue. First, the sample size would have to be enormous in order to accommodate this desire – probably a sample size much larger than even the 5% sample of the Decennial Census! Even if this could be accomplished to any degree, it would be impossible to anticipate every combination of age, gender, education level, and impairment that might arise in a forensic setting.

4.7. CPS use by Other Researchers⁴

Contrary to defense implication, the CPS is a valuable source that is relied on for disability studies. The CPS survey is the primary source of employment data for persons in the United States, and the source of the government's monthly unemployment rates that are widely quoted by the media. In addition, various independent researchers use CPS data in research on the employment experiences of persons with a work disability.

In a presentation before the National Association of Forensic Economics (NAFE) in November 2000, John McNeil (2000), a special assistant for disability statistics for the U.S. Census Bureau, now retired, reaffirmed the application of CPS data for the study of persons with a work disability. As part of the presentation, he produced a study entitled "Employment and Earnings of Individuals 18 to 64 by Disability Status: Data from the March 2000 Current Population Survey." The study explores the participation and employment rates for persons with work disability using the same data used in *The New Worklife Expectancy Tables*. In addition, he signed an affidavit stating he sees no reason why the CPS data for work disability cannot be used in the manner applied by Vocational Econometrics, Inc (McNeil, 2001). He also authored an article further supporting use of CPS data for studying worklife issues for people with a work disability (McNeil, 2002).

Herman Miller (2001) functioned as the chief of the Population Division of the Census Bureau. He has also signed an affidavit noting that the CPS data are "the most appropriate source for studying the employment experiences of people with a work disability."

⁴ Studies noted in this section are contained in Attachment E.

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Other private research funded by the government also use CPS data to study employment patterns of the U.S. population. A research economist at the Federal Reserve Bank of Atlanta published an article dealing with the rate of part-time work among people with work disability (Hotchkiss, 2004). The Rehabilitation Research and Training Center (RRTC) for Economic Research on Employment Policy for People with Disability at Cornell University⁵ has published several papers using CPS data on persons with a work disability. These include multiple papers (e.g., three by Houtenville in 2000) that studied the prevalence, employment rates, and household income of people with disability, as well as a paper by Burkhauser, Houtenville, and Wittenburg (2003) that compared the employment trends of persons with work limitations using the CPS and two other government surveys.

The extensive use of the CPS data for research on employment issues and the similar findings from other disability data provides corroborative evidence of the validity of the CPS data. Independent researchers from various institutions and with various purposes would not all use the CPS data unless the data are meaningful.

5. Fit of the Data with the Facts of the Case

Defense notes that our application of the methodology and data must fit the facts of the case. We agree. They object to the analysis because they feel Dr. Berlá did not perform a proper vocational assessment and did not make enough use of the Mr. Fischer's work history or information from his employer. They fail to understand how employment information is used in a typical vocational economic assessment. The sections below will describe the nature of such a lost earnings assessment and how my analysis fits with the facts regarding Mr. Fischer.

5.1. Nature of a Lost Earnings Assessment

In conducting an assessment of loss of lifetime earnings, an expert needs to consider a variety of factors, some of which are age, education, previous work experience, work-related limitations, and the lifetime effects of these limitations on ability to work and earn money. When conducting the assessment, it is essential that the expert take important vocational factors into consideration.

Post-injury, for instance, the estimate of earning capacity and worklife expectancy must consider the effect of the impairment on *lifetime* ability to work and earn money. The presence of a permanent, partial disability is widely known to affect both earnings and worklife expectancy. This finding is documented in results from various surveys, including the Decennial Census, Current Population Survey (CPS), American Community Survey (ACS), and Survey of Income and Program Participation (SIPP) from the Census Bureau;⁶ the National Health Interview Survey (NHIS) from the National Center for Health Statistics;⁷ and the

⁵ www.ilr.cornell.edu/ped/dep/dep_pubs.html?cat_id=7

⁶ Data from the decennial Census, CPS, ACS, and SIPP can be found on the Census Bureau website at <http://www.census.gov/hhes/www/disability/disability.html>

⁷ One example is a study by Stapleton, et al. (1997) that accesses data from the NHIS. <http://aspe.hhs.gov/daltcp/reports/eshccclit.htm>

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*N.O.D./Harris Survey of Americans With Disabilities.*⁸ The disability effect is the cause of such events as the passage of the well-known Americans with Disabilities Act (ADA),⁹ the existence of the Department of Labor's Office of Disability Employment Policy,¹⁰ and the practice of rehabilitation counseling, just to name a few.

For the purpose of assessing loss of earnings for Mr. Fischer, we have used data from the US Census Bureau's Current Population Survey (CPS) and American Community Survey (ACS). The CPS is the longest running disability survey and is the primary source of employment data for persons in the United States, the source of the government's monthly unemployment rates that are widely quoted by the media. The ACS is the largest disability survey and is collected monthly. The Census Bureau plans to use the ACS to replace the long form of the 2010 Decennial Census.

Private research using the CPS (Yelin, 1996; and Yelin and Trupin, 1997 – included in Attachment E; Gibson, 2000 and 2001, included in Attachment C) has shown that employed persons with a work disability are more likely to become unemployed than persons without a work disability. If unemployed, they are less likely to find employment. These differences become more profound with age.

Even if persons with a work disability find employment conducive to their disabilities, they face ongoing struggles to cope with their disabilities. These struggles may intensify with age, continuously making it more difficult to compete with their counterparts without disability (Gibson, 2000 and 2001, see Attachment C; also see U.S. Census Bureau website¹¹). The impairments will place the individual at a disadvantage in the labor market compared to those without disability, and likely cause the person to have a harder time finding and/or maintaining comparable employment.

Persons with low vision, such as Mr. Fischer, commonly have alterations in their behavior due to reductions in feelings of self-worth and fear that they will experience worsened or complete loss of vision. In terms of reading, the following difficulties are noted:

- Losing one's place on a line of print
- Failing to locate the next line efficiently
- Inefficiently changing from one page to the next
- Skipping words or punctuation
- Finding visual distractions on a page
- Glare interfering with words on a page¹²

⁸ <http://www.nod.org>

⁹ <http://www.usdoj.gov/crt/ada/adahom1.htm>

¹⁰ <http://www.dol.gov/odep>

¹¹ <http://www.census.gov/hhes/www/disability/disabcps.html>

¹² Information contained in a textbook used by Dr. Berlá: Corn, Anne L., and Alan J. Koenig, Editors. *Foundations of Low Vision: Clinical and Functional Perspectives*. New York: AFB Press, 1996.

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Our assessment of the impact of injury on Mr. Fischer's loss of future earnings is based on facts known regarding the employment experience of real people meeting the definition of disability. Based on Mr. Fischer's status at the time of our analysis in July 2005, Dr. Berlá determined that he was like an individual with a work disability and with a sensory disability, as defined by the Census Bureau. In this way, he applied to Mr. Fischer only those statistics that are for people similar to him.

5.2. Use of Statistical Averages

Defense argues that our analysis is inappropriate because it did not consider information specific to Mr. Fischer, but instead restricted the analysis to variables that encompass broad groups of persons, using the average statistics from these large populations.

The consternation seems to stem from a need for a very precise formula to apply these population statistics to an individual plaintiff. Averages from various populations have long been accepted as a means for prediction – life expectancy, earnings, and others. No statistic, no matter how fine-tuned, can provide an exact predictor of an individual's future. This is as true of worklife expectancies as it is of various measures of annual earnings and growth and discount rates. The expert must use available statistics about populations and mold them to meet the specifics of the case. As discussed in Section 1, the U.S. Supreme Court recognized this uncertainty several years ago, in their decision in *Jones and Laughlin Steel v. Pfeifer* (1983).

Defense objects, in short, to the fact that the statistics are derived from an average for 56-year-old males with an associate degree with a work or sensory disability. They feel the groups used are too broadly defined. They offer no alternative measures that meet their specific criteria. There are none.

Economists, actuaries, insurance companies, and gambling establishments use population averages when making rational bets on human outcomes. The basic belief is that in the absence of more specific and precise information, the best predictors of outcomes are statistical averages or relative frequencies. Following this, disability data do not have to be segregated by type, severity, or duration of disability in order to be reliable or meaningful.

Even if segregated data existed, their use would be limited at best. Persons with the same diagnosis and the same length of time since injury can have significantly different experiences in terms of their experience in the workplace, especially when education level is factored in. Consider an example of two men with identical hand injuries resulting in reduced grip strength and limited range of motion. This injury would have an enormous impact on a carpenter, who would likely need to leave his employment. For an English professor, however, the effect may be minimal.

What the criticism does point to, however, is the fact that statistics of all sorts must be used responsibly and applied by persons familiar with the world of work and career development theory. When assessing persons with disability, the user should be familiar with the effects of impairment on ability to work and earn money as well as the experiences of persons with

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disability in the labor market. Dr. Berlá has the knowledge and experience necessary for performing such a calculation.

5.3. Mr. Fischer

In deciding the most appropriate measure of earning capacity, it is necessary to consider many factors, such as age, education, and work history. Defense objects to our use of statistical averages to estimate Mr. Fischer's worklife expectancy, stating that the use of two post-injury outcomes negates that value of either one. Contrary to defense's contention, this post-injury range was included specifically in order to aid the trier of fact in determining Mr. Fischer's loss of earnings.

As experts, we were asked to assess Mr. Fischer's lifetime loss as a result of injury. In assessing Mr. Fischer's post-injury earning capacity and worklife expectancy, Dr. Berlá considered the effects of his injuries and the impact that these limitations are *likely* to have on his capacity to work and earn money in the future. Based on the experiences of real people with disability in combination with Mr. Fischer's limitations, it is probable that the impact of his injuries will make it more difficult for him to find and maintain employment. Therefore, the most relevant estimates of Mr. Fischer's earning capacity and worklife expectancy must consider this critical change.

Mr. Fischer is in his late 50s and, for most of his worklife, was employed in the computer industry as a Systems Engineer. The nature of his limitations – particularly the blurred vision, limited peripheral vision, slow reading speed, and his inability to read for more than 40 minutes – are such that it is unlikely that he will be able to maintain competitive employment, particularly in the computer industry at a level to which he is accustomed.

In conducting the assessment, we considered the range of very real events that Mr. Fischer could experience in the future. This includes two options: one that he remains unable to compete in the open labor market, and the other that he will be able to perform work, though as an individual with a disability in terms of earning capacity and worklife expectancy.

This is supported by medical information provided to us. Dr. Yasgur's deposition, for instance, notes that Mr. Fischer has reduced vision with ambient room light, reduced vision on a computer, reduced peripheral vision, and reduced ability to accommodate his vision from one printed object to another.

In addition, defense contends that Dr. Berlá "arbitrarily" placed Mr. Fischer 50% of the way on the continuum from severe to nonsevere work disability. This was anything but arbitrary. Mr. Fischer's impairment is such that, if able to work at all, he will have great difficulty finding and maintaining employment. Based on his education and experience, Dr. Berlá opined that if able to work, Mr. Fischer will be worse off than the average individual with a nonsevere work disability, but better off than the average individual with a severe work disability.

In the field of statistics and actuarial sciences, probabilities are derived by determining the average of a statistical cohort, that is, the average performance of those persons most like the person being predicted. When assessing Mr. Fischer's ability to work post-injury, Dr. Berlá determined that Mr. Fischer was most like an individual who is 50% of the way on the

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continuum from severe to nonsevere work disability, using CPS data, and as an individual with a severe sensory disability, using ACS data.

By using two surveys, we have applied a variety of data relevant to Mr. Fischer's situation in order to estimate the lifetime effect of his disability on earnings and worklife expectancy. It is important to note that looking at Mr. Fischer's situation from two different perspectives (work and sensory disability data) results in similar estimates of his lifetime earnings loss and provides to the trier of fact a range of very real outcomes that Mr. Fischer could experience. Based on his actual experience in the future, his loss of lifetime earnings can be expected to fall somewhere within the range presented in our report.

FURTHER, THE AFFIANTS SAYETH NAUGHT.

David S. Gibson, MBA, CPA
Senior Analyst

Edward P. Berlá, PhD
Vocational Economic Analyst

Subscribed and sworn to before me, a notary public, in this ____ of February 2007.

Notary Public

My Commission Expires _____