

Errata, Revisions, and Data: ‘Economic Globalization, the Macro Economy, and Reversals of Welfare Expansion in Affluent Democracies, 1978–94’

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Do “economic and demographic pressures for costly welfare expenditures provoke actions to roll back eligibility and benefit rates that link increasing numbers of unemployed and retired persons to increased social spending” as Hicks and Zorn’s 2005 article in *International Organization* claims? Does outward foreign direct investment (FDI) pressure for retrenchment even as “trade openness and financial liberalization” are “clearly operating against such retrenchments”?¹ Do political factors or other socioeconomic factors, perhaps, drive retrenchments? We reopen these questions—and related ones—here because of the existence of errors in the data (and its documentation) analyzed in the Hicks and Zorn’s 2005 article that call for some correction of sources and revision of analyses. Reanalysis nullifies most of the major nonnull findings from 2005 article, although it brings new conclusions. In particular, the thesis of self-limiting immoderation—the idea that the demographic pressures for welfare expansion measured by unemployment rates and the elderly share of populations may become so unsustainable that they trigger welfare retrenchment—no longer receives support at any conventional significance level. Indications of FDI pressure for retrenchment fade, although trade openness, if not financial liberalization, does appear rather strongly appear to inhibit retrenchments. The main news, confined entirely so far as significant findings are concerned to retrenchments measures at the weaker or more permissive of our three thresholds for identifying notable retrenchments (that is, to $c = -0.04$ and -0.05) is that strong economic performance in the form of affluence, strong economic growth, and relatively little deindustrialization inhibits retrenchments and that polities marked by a high dispersion of authority (for example, federalism, presidentialism) tend to promote retrenchment.

This document contains a description of the errors in data and documentation in Hicks and Zorn’s 2005 article, as well as the results of the revised analyses. The data necessary to replicate these findings are available as a Stata 9.0 file at <http://www.sociology.emory.edu/ahicks/IO.html>

Data and Documentation

We begin with a discussion of the four variables for which discrepancies exist in the original analysis. Note first that a portion of the description of GROWTH in Appendix 2 is extraneous. Specifically, the following is extraneous and should be deleted: “Percentage change in REAL GDP PER CAPITA. Measured at time t and $t-1$.”

The rest of the Appendix’s definition of GROWTH is accurate. Second, our documentation of the operational definition for the REAL GDP PER CAPITA, like that for its derivative GROWTH, is inaccurate. Specifically, we state on page 658 that REAL GDP PER CAPITA (and, derivatively, GROWTH) employed data from the “OECD’s *National Accounts of OECD Member Nations* (selected years).”² However, it now appears in reporting data sources for REAL GDP PER CAPITA, we inaccurately refer to OECD sources used for the standardization of our measures of WELFARE EFFORT, DEFICIT/SURPLUS, and of discarded, underling measures for the operationalization of RETRENCHMENT EVENTS (that is, for the measurement of per capita real social spending, denoted

¹See Hicks and Zorn 2005, 631, for these quotes.

²See Organization for Economic Cooperation and Development (OECD), *National Accounts of OECD Member Nations* (selected years).

PCRS below). By our best recollection and judgment, a correct description of sources for REAL GDP PER CAPITA would specify GDP data in terms of its “purchasing power parity” (PPP) form drawn from an OECD source or the Penn World Tables. We are imprecise here because our records and recollections are imprecise, and our attempt to recover the data source through the examination of different possible sources has yielded uncertain results (in part because of revisions and updates subsequently issued by the OECD). In particular, we unsuccessfully attempted to identify the data sources for our original measures of REAL GDP PER CAPITA and GROWTH by matching the data used to current data from various OECD and Penn World Table sources. However, reconstructions of REAL GDP PER CAPITA (specifically its natural logarithm averaged across 0- and 1-year lags) and of GROWTH (lagged one period) never match up closely enough to the data used in the article to provide evidence of an accurate reconstruction (and identification) of the 2005 data.³

Third, we note that our original measure for AGED POPULATION was recorded only to two decimal places, truncating its variation. Additionally, our measure of UNEMPLOYMENT RATE proved to be measured only at t , not averaged across t and $t-1$ as claimed in Appendix 2. We correct for the former flaw by recording the same measure out to four decimal places, even though it and the original measure correlate 0.986. We correct for the latter by averaging values of unemployment across t and $t-1$; here the old and revised measures correlate at 0.969. We use revised measure of need variables as well as of GDP and GDP growth in new analyses.

Accurate variable definitions for *what was actually used* in the original analysis thus are:

AGED POPULATION. Persons at least sixty-five years old divided by population from UN data (1960–95), average of 0- and 1-year lags, only to two decimal places.

UNEMPLOYMENT RATE. Unemployed as proportion of the economically active population at t from OECD (1960–95).

REAL GDP PER CAPITA. Measured as natural logarithm with data from data source of OECD (for example, *National Accounts of OECD Member Nations*, selected years) or Penn World Tables⁴ or both (for example, Penn World Tables gross domestic product (GDP) figures extrapolated by application of economic growth rate figure from OECD source). Average of 0- and 1-year lags.

GROWTH. Percentage annual change in REAL GDP PER CAPITA lagged one year (that is, the natural logarithm of the quantity REAL GDP PER CAPITA at $t-1$ minus REAL GDP PER CAPITA at $t-2$).

The corrected versions of these variables, used in the new analyses reported below, are defined as follows:

AGED POPULATION. Persons at least sixty-five years old divided by population from OECD, *Labor Force Statistics*. Average of 0- and 1-year lags.

UNEMPLOYMENT RATE. Unemployed as proportion of the economically active population data from OECD, *Labor Force Statistics*. Average of 0- and 1-year lags.

³Correlations between the original 2005 measure of the natural logarithm of REAL GDP PER CAPITA averaged across 0- and 1-year lags and our attempted reconstructions range from around 0.500 to 0.800. Correlations between the original GROWTH measure and our attempted reconstructions range between 0.25 and 0.35 if reconstruction are measured at $t-1$, and between 0.80 and 0.90 if they are measured at t , suggesting that the GROWTH data in the 2005 article were not actually lagged

⁴For example, Penn World Table 6.1, available at <<http://www.nber.org>>, accessed 10 January 2006.

REAL GDP PER CAPITA. Natural logarithm of GDP, volume, 2000 constant PPP divided by population with GDP data from *OECD Economic Outlook*⁵ and population data from OECD, *Labor Force Statistics*. Average of 0- and 1-year lags.

GROWTH. Percentage annual change in GDP, volume, 2000 constant PPP divided by population (that is, the natural logarithm of the quantity GDP, volume, 2000 constant PPP at $t-1$ minus the natural logarithm of the quantity domestic product, volume, 2000 constant PPP divided by population at $t-2$).

Reanalysis

Because of our inability to verify the original sources of the variables REAL GDP PER CAPITA and GROWTH—either through achieving identical figures or correlations approaching 1.00—we reestimate key analyses of the 2005 article using new, clearly replicable, state-of-the-art figures on real GDP per capita and lagged real per capita GDP growth. Specifically, we use data on per capita gross domestic product at constant 2000 PPP from the OECD’s *Economic Outlook* and *Labor Force Statistics*.⁶ Constant data at PPP are the norm for the measurement of economic production and growth in comparative time-series data, and the 2000 PPP data are relatively recent, well updated.

Before presenting reanalyses, note that “retrenchment events” are coded as occurring according to the following formula:

$$\frac{PCRS_{it+k} - PCRS_{it}}{PCRS_{it}} < c \quad (1)$$

Here, k indexes the duration of the decline, while c is the cutoff at which we code a retrenchment as having occurred; larger values of k correspond to longer periods of retrenchment, while larger (negative) values of c indicate deeper levels of retrenchment activity. Here we use retrenchment events based on three years duration periods ($k = 3$) here and all three magnitudes of decline (specifically, $c = -0.04, -0.05,$ and -0.06).⁷ Reanalyses of retrenchments using the same statistical procedures as the 2005 article follow and are reported in Table 1.

The new results in Table 1 address the major 2005 ones. First, note that estimates for unemployment rates and the elderly share of populations never approach statistical significance level. (These estimates generally are positively signed, as hypothesized by the 2005 article’s thesis of self-limiting immoderation: unemployment estimates are always positive, elderly estimates are always so for $c = -0.04, -0.05$.) Second, note that significant indications of globalization effects are gone with one major and one minor exception. The major exception is for trade openness. This has significant negative, retrenchment inhibiting in models predicting the two least restrictive ($c = -0.04, -0.05$) of our three thresholds of social spending decline. In three of the four models in question trade openness has significant negative effect estimates at the two-tailed, 0.05 test level (see the second, third, and fifth columns of Table 1). In the remaining model of relatively low or moderate retrenchment, trade openness has a significant negative estimates at the two-tailed, 0.10 test level (see the fourth column). The minor exception involves a single significant positive estimate for financial liberalization for the shorter equation (without welfare effort or public deficit controls) for intermediate retrenchment ($c = -0.05$). (The

⁵For example, *Economic Outlook*, available at <<http://www.sourceoecd.org>>, accessed 10 January 2006.

⁶See *ibid.*; and *Labor Force Statistics*, selected years.

⁷We adopt the preferred k of the original article and consider results across all three values of c as a check on robustness. The latter follows the practice we adopted in the original article, though there the findings for $c = -0.04$ and $c = -0.06$ were left to an electronic appendix.

positive estimate also for FDI in the third column of the table might seem a second minor exception, but with significance only at the marginal 0.10 level and inconsistent signs across FDI estimates, this would, at most, constitute a very minor exception indeed.)

As in the benchmark equations of the first two columns of Table 1, which are drawn from the first and second columns of Table 3 of Hicks and Zorn (2005), estimates for affluence (that is, logged real GDP per capita) and GDP growth effects are always negative, and significantly so, for all new equations save those for $c = -0.06$. As in the benchmark equations, estimates for power dispersions are always positive, and significantly so, for all new equations but the ones containing policy controls for $c = -0.06$. Evidence for the retrenching effects of deindustrialization are almost equally persistent for models with less stringent threshold for retrenchment than $c = -0.06$. It reveals positive retrenching effects for deindustrialization at the two-tailed 0.05 significance level for all of these models but the longer one for $c = -0.05$ and at just short of this level ($z = 1.93$, $p = 0.054$).

As regard relatively political variables, one more strong and clear finding emerges (at least when retrenchments are measures at our two least restrictive thresholds for retrenchment). Power dispersion always has positive effects on retrenchment at the two-tailed 0.05 test level, consistent with the view that veto points are less an obstacle to social policy change of any sort than to prospending politics. As for other relatively political findings, lagged welfare effort, though always positively related to retrenchment is never significantly related to it. One model, the longer one for $c = -0.05$, provided marginally significant evidence ($p = 0.086$) that public deficit might inhibit rather than promote retrenchment. (Perhaps here public deficits stand in less as indicators of fiscal laxness than pressures for fiscal stringency.) At least marginally significant indications that neocorporatist arrangement and inclusive electoral systems promote retrenchments of at least our less stringent sorts arise. (For each of these institutional arrangements, a slope estimate is significantly positive the 0.05 level at least once at merely the 0.10 level a second time.)

By contrast, results from the models of welfare effort with lagged retrenchment events as regressors (as with those of Table 4 of the original article) are little changed by the revised measurement of economic affluence and growth. For the case of models estimated with an AR(1) adjustment for residual autocorrelation, the pattern of results in terms of magnitudes and signs and significance levels of coefficients remains very similar: economic growth and inclusive electoral now simply slip below significance at better than the 0.10 level (for a one-tailed test); and financial liberalization and unemployment, no longer achieve any inkling of significance. However, deindustrialization becomes highly significant while elderly population, economic growth, electoral inclusiveness, and power dispersion remain so. Most importantly, estimates for lagged retrenchment events remain highly significant. In models with a lagged dependent variable to adjust for autocorrelation, results are again similar. Here the main shift is that negative estimates for lagged retrenchment lose statistical significance.

Our reanalysis thus offers no strong suggestion that increasing economic globalization, societal aging, or unemployment notably drive retrenchment. The study still indicates that aggregate economic affluence inhibits retrenchments while power dispersing political institutions and deindustrialization facilitate or promote them. Indeed, deindustrialization—such as unemployment and societal aging—has been found to promote social spending. Yet deindustrialization, as with unemployment and societal aging, is sensibly hypothesized to have a self-limiting relation to social spending as pressures for this spending become fiscally and macroeconomically immoderate. Thus, pressures exerted by deindustrialization on retrenchment

may be regarded as both surprising with regard to past studies and subtle with regard to their implications for the impacts of de-industrialization on social spending. Indeed, they might be interpreted consistently with the thesis of self-limiting immoderation proposed in Hicks and Zorn's 2005 article, at least for more moderate degrees of retrenchment.

Overall, these reanalysis replace the conclusions of the 2005 article that pointed to a predominant role of economic globalization, societal aging, and unemployment in the generation of welfare retrenchment with new conclusions stressing a politically augmented developmental model of welfare state robustness. According to this model, retrenchments arise in nations marked by relatively low affluence and rates of economic growth, high deindustrialization, low trade openness, plus institutional dispersion of political powers.

References

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TABLE 1. Cox models of retrenchment events with old and new measures of unemployment, elderly population, affluence, and growth and for three magnitudes of retrenchment

Variable	Old measures		New measures					
	Without fiscal variables	Including fiscal variables	Without fiscal variables	Including fiscal variables	Without fiscal variables	Including fiscal variables	Without fiscal variables	Including fiscal variables
	<i>c</i> = -0.05	<i>c</i> = -0.05	<i>c</i> = -0.04	<i>c</i> = -0.04	<i>c</i> = -0.05	<i>c</i> = -0.05	<i>c</i> = -0.06	<i>c</i> = -0.06
<i>Globalization-related factors</i>								
TRADE OPENNESS	-6.69 ⁺ (3.52)	-4.41 (3.15)	-8.19* (3.62)	-10.84** (3.50)	-8.76* (4.83)	-16.68* (8.19)	-2.99 (5.09)	-3.52 (5.50)
OUTWARD FDI	9.84 (9.41)	18.6 (14.6)	15.30+ (9.04)	11.70 (9.29)	-1.53 (7.97)	-55.91 (37.80)	6.57 (6.54)	-0.03 (0.81)
FINANCIAL LIBERALIZATION	-3.54* (1.74)	-3.52** (0.98)	0.86 (1.01)	0.47 (0.74)	1.33 (1.00)	3.11* (1.31)	0.12 (0.74)	-0.03 (0.81)
<i>Economic/demographic factors</i>								
UNEMPLOYMENT RATE × 100	0.42* (0.19)	0.68* (0.28)	0.26 0.23	0.43 (0.38)	0.12 (0.17)	0.14 (0.34)	0.05 (0.16)	0.01 (0.17)
ELDERLY PROPORTION OF THE POPULATION × 100	0.90* (0.42)	0.15 (0.29)	0.21 (0.49)	0.35 (0.40)	0.25 (0.41)	0.67 (0.75)	-0.20 (0.28)	-0.08 (0.60)
LN(REAL GDP PER CAPITA)	-4.96** (2.11)	-	-18.54** (4.07)	-27.27** (8.38)	-21.90** 5.57	-58.70* (26.34)	-7.31 8.94	-11.14 (13.35)
REAL GDP / POPULATION GROWTH × 100	-1.06* (0.40)	-1.11** (0.30)	-51.59* (23.41)	-91.02* (46.49)	-53.42* (23.10)	-137.0** (23.67)	-20.93 (18.28)	-24.82 (20.01)
DEINDUSTRIALIZATION	0.59* (0.25)	0.13 (0.14)	0.60** (0.14)	0.69** (0.27)	0.81** (0.17)	1.79+ (0.93)	0.30 (0.33)	0.32 (0.44)
LAGGED DEFICIT/SURPLUS	-	0.16 (0.18)	-	-0.28 (0.19)	-	-0.86+ (0.50)	-	-0.19 (0.24)
LAGGED WELFARE EFFORT	-	0.33** (0.11)	-	0.24 (0.22)	-	0.11 (0.22)	-	0.12 (0.15)
<i>Political/institutional factors</i>								
NEOCORPORATISM	0.47 (0.94)	-1.30 (1.64)	2.41+ (1.34)	2.35 (2.07)	2.90 (2.16)	6.42* (3.03)	0.22 (1.71)	0.70 (2.19)
INCLUSIVE ELECTORATE	1.59 (1.11)	0.76 (1.01)	2.32* (1.03)	1.96 (1.49)	2.24* (1.25)	3.00 (2.71)	0.88 (1.72)	0.28 (1.67)
POWER DISPERSION	4.58** (1.54)	6.34** (1.86)	4.83** (1.30)	7.99* (2.73)	5.50** (2.06)	13.43** (4.43)	1.95 (1.47)	3.07 (2.49)
LEFT-PARTY GOVERNMENT	1.06 (1.14)	4.43** (1.13)	1.27 (0.93)	0.94 (0.92)	2.51 (2.66)	7.58+ (4.55)	0.28 (1.33)	-0.38 (1.25)
CHRISTIAN DEMOCRATIC GOVERNMENT	-1.96 (3.50)	3.50 (2.40)	-0.34 (1.78)	3.34 (3.15)	0.09 (3.40)	11.62+ (6.42)	-0.11 (2.61)	2.09 (3.02)
LOG PSEUDO-LIKELIHOOD	-13.63	-13.65	-15.12	-13.22	-15.42	-11.47	-17.19	-16.58

Note: *NT* = 306. Cell entries are coefficient estimates; numbers in parentheses are robust standard errors. + *p* < .10; * *p* < .05; ** *p* < .01.