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## Abstract

This paper provides monthly economic activity indicators for 30 countries on six continents for the period 1925–36 based on more than 1200 historical time series. Aggregating these to a global economic activity indicator shows that the global recovery after 1931 was slower than much-cited contemporary evidence suggests. On a disaggregated level, we find that the majority of European countries experienced recessionary tendencies already in the mid-1920s, which puts the notion of a US-originated Great Depression into perspective. Our evidence cautions against employing industrial production to assess crises and recoveries across space as manufacturing catch-up growth occurs less developed countries. In this vein we find that in contrast to established historiography Spain, albeit floating her currency, was severely affected by the crisis, and Japan was hit harder than annual industrial production suggests. Finally, mapping the Depression suggests that economic improvements of major trading partners could have served as a catalyst for a country's recovery. As a methodological contribution, we develop a framework to aggregate non-stationary series using principal component weights, and we scale the resulting indicators to an interpretable dimension using the standard deviation of annual industrial production indices.

**Keywords:** Great Depression, Economic Activity Indices, 20th Century, Business Cycles

**2000 MSC:** JEL codes: C38, E32, E58, N14

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## 1. Introduction

The worldwide economic crisis in the early 1930s serves as a yardstick for the depth, speed and international extent of all economic crises ever since. Understanding its root causes and how it spread is key to preventing similar events from happening again. However, not only are economists divided about *why* it happened, there is still a considerable discussion about *what* actually happened, i.e. where it originated and how the crisis spread. Given the importance and nature of the subject, more than 70 years should have been enough to bring about a data set with (i) reliable and comprehensive economic activity indicators at (ii) monthly frequency and for (iii) a large number of countries – yet reality is far from this. The state-of-the-art data sets fulfil at most two of these three requirements: GDP estimates such as Barro and Ursua (2010) typically come

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at annual frequency, while other authors focus on particular variables (see e.g. Accominotti, 2012, for the financial sector) or consider not more than about a dozen countries (see e.g. Mathy and Meissner, 2011, for industrial production). This paper introduces a new data set of economic activity indicators combining all three properties – a broad coverage of the economy, high frequency, and a more global geographical coverage.

The new economic activity indices suggest that global economic recovery after 1931 was slower than previous evidence suggested (Wagenführ, 1938; Almunia et al., 2010). In this light, the recovery after 2008 appears less gloomy than Almunia et al. (2010) argued. Moreover, we show that many European countries were in a weak state already in the mid-1920s, lending credibility to the idea of a “Long European Depression” (Kindleberger, 1986; Wolf, 2010) and raising doubts about US-centred explanations for the global Great Depression (Romer, 2004). Inter alia, these results stem from our third finding: Industrial production is not a representative indicator for economic activity in lesser developed countries. Since their industrial sector was small before the crisis, unconditional convergence in the industrial sector led to high growth rates, which masks the true impact of the crisis on the broader economy in terms of unemployment and agricultural depression.<sup>1</sup> As a prime example, Spain that has so far been thought to having escaped the crisis (Choudhri and Kochin, 1980; Temin, 1993) did not do exceptionally well, especially when one takes into account the duration of the crisis. This is all the more important as Spain was not on the gold standard, apparently without too much of an effect. In the historiography of the interwar years, however, the gold standard is thought to be the “single best predictor of how severe the Depression was” (Temin, 1993, p. 92). Finally, mapping the Depression suggests that the recovery of important trading partners could have served as a major catalyst for a country’s recovery.

Why did previous research not improve the high frequency data coverage of the Great Depression? Our understanding of the historiography of the Great Depression is that methodological and more importantly computational constraints impeded previous research on its global transmission and that there was thus little need for such data. The literature on the Great Depression developed in four major waves with contemporary economists constituting the first wave. Especially the League of Nations (e.g. 1931, 1945) took an internationally comparative perspective but lacked the statistical tools and computational power to handle large, high-frequency data sets. This did not change when Friedman and Schwartz (1963) pioneered research on the US Great Depression, arguing that policy mistakes had caused it. In contrast to their predecessors, they used more monthly data to assess the timing of events. This second wave however focused on single countries and did not take into account the international dimension explicitly (Bernanke, 1995, p. 3). The third

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<sup>1</sup>This mirrors recent findings about unconditional convergence in the manufacturing sector by Rodrik (2013) and Bénétrix et al. (2012).

wave, the gold standard literature, emerged in the 1980s and has shaped today's understanding of the interwar crisis as well as the field of international macroeconomics. According to this research, the gold standard was not only instrumental to the global transmission of the crisis, but also causal to the downturn itself (Eichengreen, 1992). The methodological innovation of this literature was to expand the data to many countries and thus improve the econometric identifyability of the causes for the crisis (Bernanke, 1995, p. 1). However, this type of research has undermined another important dimension of the data – the time frequency dimension. With computational power still limited, the datasets of the gold standard literature would rest on annual data, which makes it hard to analyse how the crisis spread, given the speed of the recession that would eventually evolve into the Great Depression. The fourth wave consists of recently published literature and shows the merits of using higher frequency data in an international setting (e.g. Wolf, 2008; Mathy and Meissner, 2011; Accominotti, 2012). To the best of our knowledge, Ritschl and Sarferaz (2014) are the first to explicitly assess crisis transmission channels for the 1930s from a time series perspective. Contrary to conventional wisdom, they identify a financial transmission channel from Germany to the United States. With our data, this class of models could be applied to a wider range of countries, thus facilitating a more global identification of transmission channels.

Given methodological and more importantly computational constraints in the past, there was little scope for such identification of transmission channels until recently. The relaxation of these constraints and the promising findings of the fourth wave of research motivate us to introduce a novel dataset for the interwar years, which facilitates to analyse the Great Depression from a global perspective with high-quality, high-frequency observations. To produce indices comparable across time and space, we address two problems related to diffusion indices. Firstly, the “trend” in the short period of 1925–1936 (which makes the series non-stationary) is the actual object of interest and needs to be preserved. The solution we propose is to estimate the index weights with principal components on the stationary time series but apply the estimated weights to the standardised levels. Secondly, diffusion indices are not as readily interpretable as industrial production, which is by its nature linked to the physical world. Hence, we scale each country's monthly activity index to the second moment of annual industrial production in order to make it interpretable and comparable across time and space.

In the remainder of the article, we describe the data sources, discuss the methodological problems and offer solutions, and finally present our results on the prelude, onset and recovery from the Great Depression across space.

## 2. Sources and Aggregation

### 2.1. Data

This section presents some key facts about the disaggregated data we employ. We provide more than 1200 monthly time series for 30 countries during the interval from 1925 to 1936,<sup>2</sup> leaving us with more than 150,000 data points. Our main source is the *Statistisches Handbuch der Weltwirtschaft* (Statistisches Reichsamt, 1936, 1937) complemented with data from the *International Abstract of Economic Statistics* (Tinbergen, 1934; Methorst, 1938) and country-specific sources.

The *Statistisches Reichsamt* gathered the data from national statistical offices, periodicals such as *The Economist*, publications such as *Lloyds Register of Shipping*, and reports by private banks. Contemporaries praised the *Handbuch* for its coverage and accuracy (see e.g. Mitic, 1936). Data from the *International Abstract*, which was compiled by Jan Tinbergen (1934), has been used in numerous publications (see e.g. Eichengreen, 1982). We made several crosschecks of both publications with the original sources, and found no evidence for inaccuracies, reassuring us about the quality of the data source. In some cases, the indicator series from the two editions of the *Handbuch* were not entirely comparable, so we linked them via re-basing. In some exceptional cases, small extrapolations were unavoidable. Appendix B documents the source, the unit, and, if applicable, conversions for each single series.

Figure 1 maps the global coverage of our dataset. Different shades indicate the number of economic indicators. In comparison to one of the most extensive monthly cross-country data sets on industrial production or proxies thereof (Mathy and Meissner, 2011), we improve the coverage for the period from 1927 onwards by 16 countries, most of which were developing countries in the interwar period.

Naturally, number and type of indicator series vary by country. The arithmetic mean of indicators available is 40, the median 32, and the standard deviation about 24. Doubtlessly, one could argue that this induces a selection problem into our dataset. However, there is an alternative interpretation. For example, coal production might be a good indicator for Great Britain, whereas it is only of secondary importance for a less industrialised country such as Denmark. Therefore we favour the interpretation of a “qualitative filter:” the series were recorded for the simple reason that they were relevant for the economy, whereas omitted ones were of less relevance.

A more serious concern is the balance between nominal and real variables. Real indicators include count data (such as number of individuals unemployed) and those given in physical measures (such as tons of goods transported on railways), whereas all others are defined as nominal. Of the

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<sup>2</sup>For a few countries the period is shorter, but always covers the immediate run-up to the Great Depression.

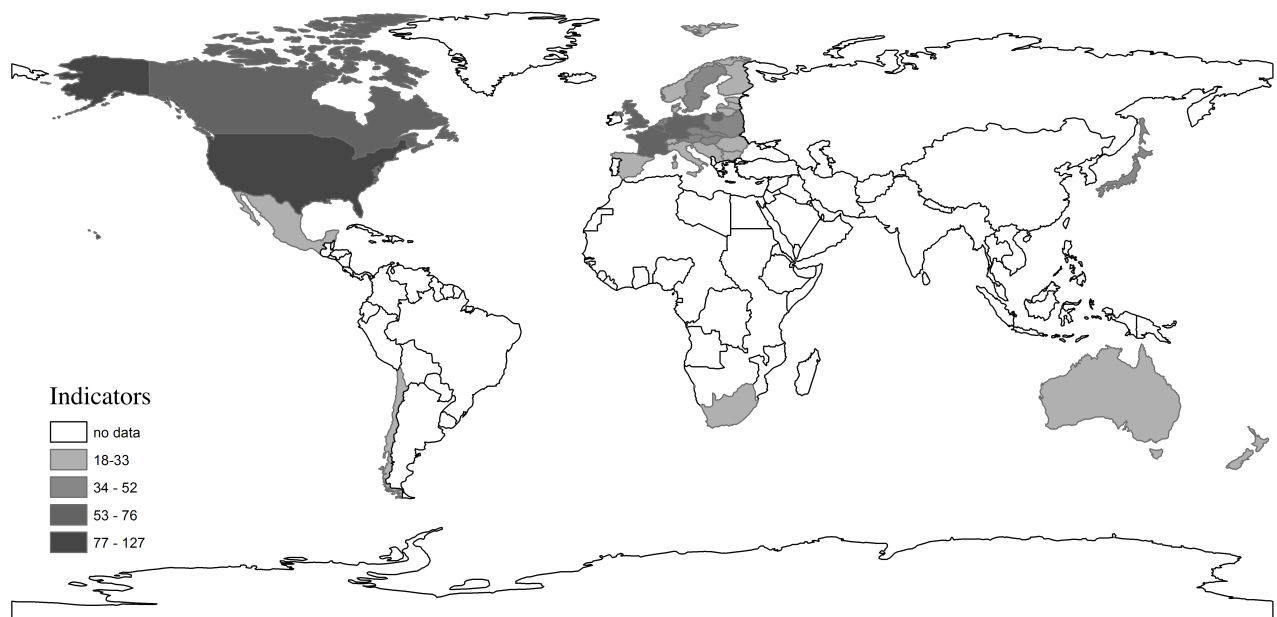


Figure 1: Geographical Coverage

1211 disaggregated series, about 44% are real and 56% nominal indicators. While economists generally believe in market prices as indicators of scarcity, one might always argue that the price level might be driven by monetary policy rather than real factors. In the interwar period this would particularly be connected to the international monetary system (Bernanke, 1995, p. 15). Although our robustness checks show that real and nominal variables carry very similar bits of information we deflate nominal indicators with wholesale prices in order to meet these concerns.<sup>3</sup>

Another characterisation of the variables is a sectoral one (see Figure 2). We assign each variable into one of the following seven groups: (i) *Official Production Indices*, which were calculated by the respective contemporary statistical departments and are only available for twelve countries, (ii) *Trade*, (iii) *Production, Sales, Employment, Transport* and alike (iv) *Prices*, including wholesale and consumer prices, (v) *Private Banking*, including variables such as clearings and market interest rates (vi) *Central Banking*, and (vii) *Stock Market*, including variables such as stock issues. We are agnostic about the relevance of the individual sectors for the business cycle, but expect nearly all of them to carry some information. For example, we include trade, because exports are a very important indicator for the well-being of primary product producers in this period. Moreover, in several countries such as the Netherlands and France, statistical offices included export quantities as proxies, when they calculated industrial production indices (Wagenführ, 1938, p. 96).<sup>4</sup> Moreover, the import of capital goods teaches us about the investment mood. Banking

<sup>3</sup>However, deflating the indicators might underplay the severeness of the crisis for primary good exporters.

<sup>4</sup>Wagenführ was rather sceptical about trade as a proxy for output.

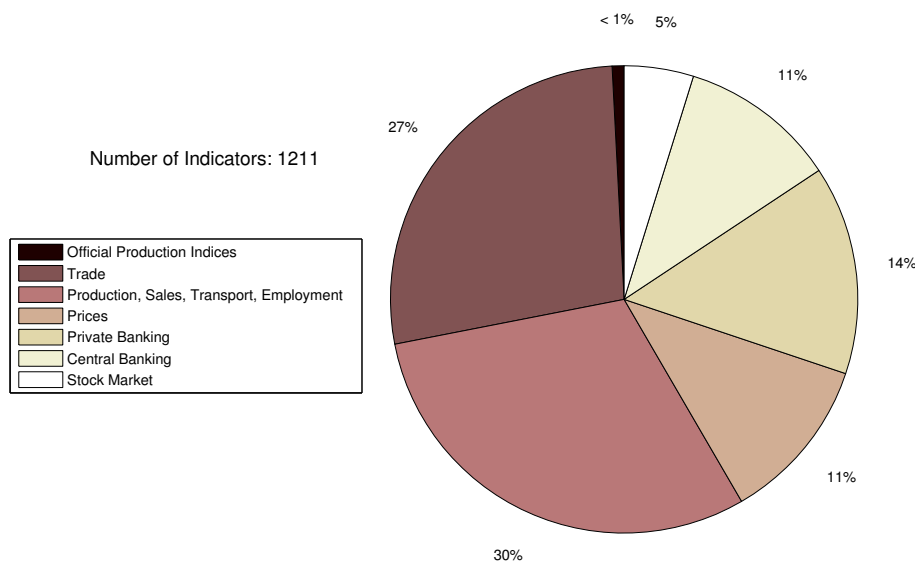


Figure 2: Sectoral Distribution of the Data

variables such as clearings can contain valuable information as one can infer from the contemporary *Index of Business Activity* for Britain calculated by The Economist (1933). While there is some variation across countries concerning the availability of real indicators, we have a reasonable number of these for each country (see Appendix).

In sum, the nominal versus real categorisation and the sectoral distribution of our indicator variables suggest a good balance of the sample. It allows us to show that the inclusion of deflated variables does not substantially affect the results. For country-specific information, we refer the reader to our extensive Appendix, where we document every individual series. The remainder of this section discusses how we treat and aggregate the underlying data to country indices. Before doing that, however, we illustrate why industrial production might be an insufficient proxy for “macroeconomic health.”

## 2.2. Economic Activity versus Industrial Production

The most popular indicator of economic well-being is per capita GDP, but in its absence and if monthly observations are needed, industrial production often serves as a proxy for short run fluctuations of economic well-being instead (see e.g. in Wolf, 2010; Mathy and Meissner, 2011). Industrial production is defined as the sum of the physical output in different industries weighted by employment shares for example.

Coincident economic indicators or “diffusion indices” constitute an alternative approach, which was pioneered by Burns and Mitchell (1946) and revived in the late 1980s by Stock and Watson (1989).<sup>5</sup> In contrast to industrial production, a “diffusion index” (a technical term for what we call economic activity index) is defined as an unobserved (latent) variable capturing the current state of economic activity, and measured by a statistical model that uses a wide variety of economic time series as inputs – just as in this article. In industrialised economies such as the US, the two indicators can be assumed to move closely together, but there are good reasons to suspect that this does not apply to industrialising economies. Given the popularity of industrial production for measuring the crisis of the interwar years this question is highly relevant.

The Nordic production-employment paradox illustrates why industrial production and economic activity might not move together.<sup>6</sup> For example, the Danish industrial production index grew by 53% from 1925 to 1936 (League of Nations, 1945, p. 142) and Finnish production even doubled during the same period (Mitchell, 2014).<sup>7</sup> However, qualitative accounts in the *International Abstract of Economic* make us somewhat sceptical of these miraculous growth records. For example, while the official annual industrial production index records a 15% increase in 1933 for Denmark, the experts of the International Statistical Institute observe only a “slight improvement” (Methorst, 1938, p. 61). These qualitative records are easily backed up by employment numbers. According to official statistics Danish unemployment grew by five percentage points between 1925 and 1936 (Methorst, 1938, p. 68) and employment in Finland regained its 1926 level only in 1935 (Methorst, 1938, p. 98). In these cases, qualitative accounts and unemployment records are extremely hard to reconcile with industrial production exhibiting such strong growth rates.

Finland and Denmark were hardly exceptions. Such “growth miracles” occurred elsewhere as well and seem to be associated with small industrial employment shares (Figure 3).<sup>8</sup> This type of unconditional convergence limited to the industrial sector has recently been discussed by Rodrik (2013) for more recent decades and by Bénétrix et al. (2012) going back as far as 1870.<sup>9</sup> In thrust with industrial production’s popularity as an indicator of broad economic activity, this cautions

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<sup>5</sup>See also Spiethoff (1955) and Spree (1977, 1978) for earlier applications to Germany.

<sup>6</sup>Grytten (2008) argued that it can be explained by positive labour supply shocks.

<sup>7</sup>However, if we take annual gross production value from Methorst (1938, p. 98), and convert it to 1925 dollars using Board of Governors of the Federal Reserve System (1943, p. 670) and Williamson (2014), the growth miracle is reduced to 50%. This alone may suffice to illustrate the questionable scale of interwar industrial production estimates.

<sup>8</sup>We took the employment shares from Statistisches Reichsamts (1936). They do not refer to the exact same years for all countries but this should not substantially affect the results as they typically behave smoothly in time. We calculated compound growth rates using the respective first and last annual values in our sample, mostly 1925-1936.

<sup>9</sup>That there is no substantial evidence for unconditional GDP convergence in the interwar years (Roses and Wolf, 2010) might surprise the reader in this context, but unconditional GDP convergence has not been found for any broader sample (Rodrik, 2013, p. 1).



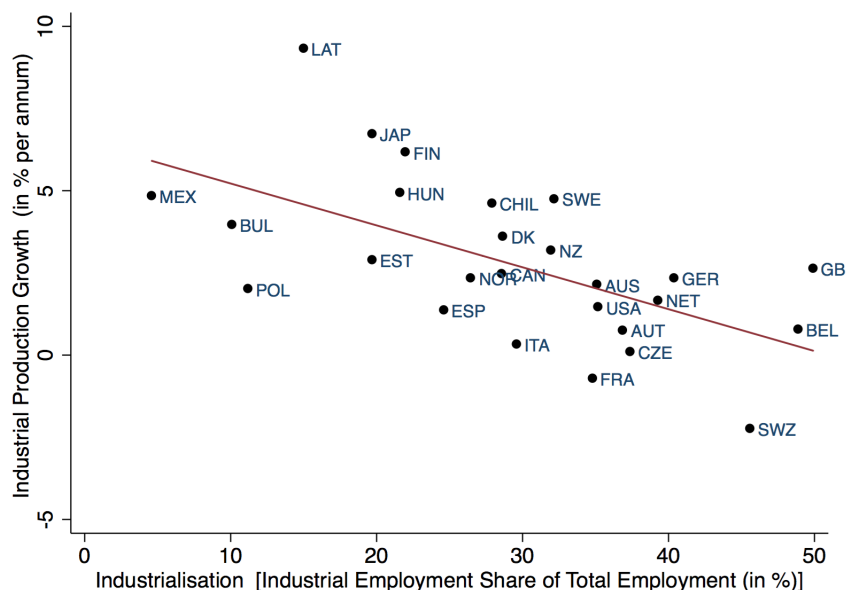


Figure 3: Annual growth of Industrial Production between 1925 and 1936, and initial industrial employment share

against the use of cross-sectional data (such as in Eichengreen and Sachs, 1985) for assessing the recovery without controlling for initial industrial development. Hence, we favour economic activity indices including the industrial sector over indices on industrial production only, and use information from as many economic sectors as possible to arrive at a more representative account of interwar business cycles.

Having said that, we will still use one particular piece of information from industrial production indices. While their levels might be subject to convergence issues, there is no a priori reason to assume that their second moments are. The next chapter illustrates how industrial output fluctuations can be used to rescale diffusion indices, making them interpretable in terms of amplitude and comparable across the sample and with indicators in the literature.

### 2.3. Aggregation - Index Problems Now and Then

Estimating latent business cycle indices has seen important developments in the 1990s and early 2000s (see e.g. Stock and Watson, 1991; Otrok and Whiteman, 1998; Kose et al., 2003). These linear models are formulated for stationary data, which for business cycle research is usually the correct specification. But what if a *particular* cycle is the object of interest? In the case of interwar economic time series, removing the “trend” means to remove the actual crisis, and thus renders the procedure pointless.

One way to tackle this problem is to use annual GDP for the levels and a latent monthly indicator for interpolation to get to a monthly indicator as Mitchell et al. (2012) did for interwar Britain.

While their mixed frequency approach is useful when annual national accounts are reliable, we are skeptical of its applicability to our sample of countries, in which reliable GDP data is sometimes lacking and the commonly used industrial production indices (League of Nations, 1945) are subject to the criticism raised above.<sup>10</sup> A second way is to realise that Mitchell et al. (2012)'s mixed-frequency model is actually based on a non-linear aggregation model suitable to our needs (Proietti and Moauro, 2006). However, instead of using this non-standard model requiring highly specialised skills we apply Occam's razor and solve the problem with textbook econometrics.<sup>11</sup> The resulting algorithm is illustrated in Figure 4. It combines all necessary steps: seasonal adjustment, deflating, detrending and principal component analysis of the indicator series, index aggregation, and finally re-scaling.

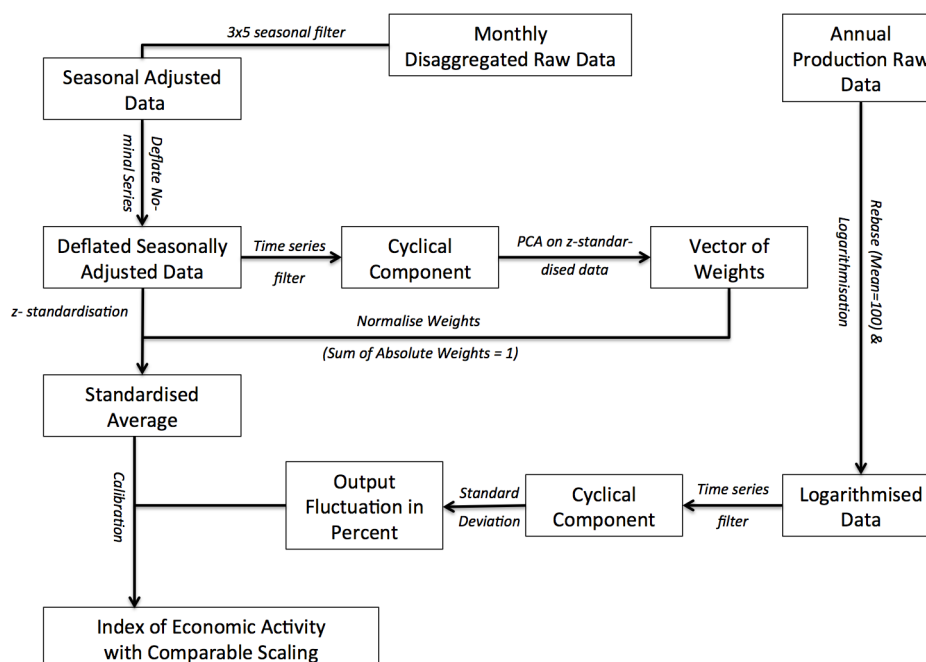


Figure 4: Aggregation Procedure

Seasonal adjustment is a problem contemporaries had to deal with as well, especially with the fact that it differs across the indicator series. First, the intensity of seasonality differs. For instance, the seasonality of interest rates, if any, is much weaker than the one of unemployment. Second, it

<sup>10</sup>We also created a set of interpolated indices following the method proposed by Fernandez (1981) that was implemented in Matlab by Enrique M. Quilis (2013). We refrain from showing the results as we find the approach not suitable for our sample. The results are available from the authors upon request.

<sup>11</sup>Stock and Watson (1991, p. 75) suggest another alternative: They re-trend the index after aggregation and calibrate its scale to the US Department of Commerce's business activity index but this requires first differencing, which does not always render our series stationary.

differs along the time dimension. One could think of retail sales and some other production indicators as an example. While we would expect retail sales to peak in December in most countries, the opposite would be true for most production series. Therefore, it is of utmost importance to remove the seasonal components ex-ante. Once aggregated, the seasonal patterns would not be identifiable any more and this might influence results.

In most cases, though not all, the contemporary statistical offices adjusted monthly industrial production indicators (League of Nations, 1933, p. 157), but little is known about the techniques they applied. Given the technical possibilities of the time, we can be quite sure that they did not allow the seasonal component to vary over time. However, this can, given the exceptional circumstances of the 1920s and 1930s, be quite important. Hence, we employ a  $S_{3 \times 5}$  seasonal filter which is based on a moving average and allows the seasonal component to vary over time (see Mathworks, 2013, for details).

In the second step, we deflate all nominal series with the respective country's wholesale price index to ensure that we measure the real fluctuation of economic activity.<sup>12</sup>

In the third step, we estimate weights for index aggregation. Some contemporary statistical offices employed simple geometric (e.g. Italy and Norway, see Wagenführ, 1938, p. 101) or arithmetic averages (see e.g. for Hungary and Japan, League of Nations, 1933, p. 157). This form of weighting is certainly the most basic and comes with many problems. Most contemporaries were aware of this<sup>13</sup> and hence most used either employment shares by industrial sectors, gross production, net production, machine power, or a combination of these to calculate weights (Wagenführ, 1938, p. 101).

As finding suitable weights requires a large amount of country specific knowledge and still would be subject to arbitrariness we rely on an agnostic weighting procedure. An indicator series should receive a high weight if it contributes much to total variance of the final aggregate and a small weight if it hardly matters. This variance share depends on the degree of comovement with the rest of the indicators for the particular country, and can be estimated by Principal Components Analysis (PCA). As non-stationary indicator series would result in a biased variance estimate and hence potentially misleading weights, we first remove the trend using the Hodrick-Prescott filter employing the standard smoothing parameter for monthly data  $\lambda = 14,400$  (Hodrick and Prescott, 1997).<sup>14</sup>

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<sup>12</sup>We do not deflate the central bank series as they are often expressed in constant values (e.g. gold stock) or deflating them would not make sense (e.g. bank rates). Moreover, often they show comparatively little variation themselves and deflating them would introduce artificial comovement between the series. The difference to the non-deflated dataset is small but the latter can be requested from the authors.

<sup>13</sup>For instance indicated by The Economist's (1933, p. 1–8) reflections about their business activity index for Britain.

<sup>14</sup>Our robustness tests show that alternative filters such as log-differences yield very similar results. Results are

We then z-standardise the cyclical component to give every series a unit variance and a zero mean. Thereafter we run PCA and identify the coefficients for the first principal component, which explains the most variance in the sample. Normalising the sum of those weights' absolute values to one we mimic the contemporary statistical offices. The only difference is that we let the data speak about the choice of weights.<sup>15</sup>

The standard approach would be to apply the weights to the *de-trended* series to form the index aggregate. However, doing so we would eliminate the actual crisis in most countries. Therefore, we deviate from the standard procedure and apply the weights to the z-standardised series in *levels*. The z-standardisation ensures that the variance is equal across indicator series, which sets upper and lower bounds to the influence of each indicator on the aggregate.<sup>16</sup>

We now have derived an index of economic activity  $sc_{i,t}$  with unit variance and zero mean. This scaling is adequate for panel regressions, but not for aggregating the indices to a world index or measuring crisis severity in a way comparable to industrial production indices. For this, the index needs to be multiplied with the standard deviation of some externally measured index with a readily interpretable scale. This has been done before, but did not carry the same relevance as here (Stock and Watson (1991, p. 75), Sarferaz and Uebele (2009)).

Therefore, we calibrate  $sc_{i,t}$  to the standard deviation of the HP de-trended logarithm of annual industrial output data  $\sigma_i$  of which the mean had been previously set to 100.<sup>17</sup> Fluctuations of this calibrated index are now expressed in percentage deviations from the mean, which is set to 100. At any given point of time  $t$  for each country  $i$  we multiply  $sc_{i,t}$  with the standard deviation of annual industrial production ( $\sigma_i$ ) and hence arrive at the scaled indicator  $y_{i,t}$ .

$$y_{i,t} = 100 + sc_{i,t} * \sigma_i \quad (2.1)$$

In sum, the strategy outlined above solves index problems that contemporaries faced, including seasonal adjustments, the choice of weights, and calibration to comparable scales. When rebased to 100 in the year 1929, the calibrated economic activity indices are comparable across countries as they measure deviations of economic activity in percent of the level in 1929. The next subsection demonstrates the power of this approach by comparing our index to official production estimates

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obtainable upon request.

<sup>15</sup>Weights for every country and series are documented in Appendix B.

<sup>16</sup>This solves a problem that contemporaries were aware of but did not solve: heterogeneous variances across the sample. Wagenführ (1938, p. 89) notes that capital goods production is more sensitive to cyclical fluctuations than consumption goods production and hence the ratio of the two would matter for the levels of the indices. This problem disappears after standardising the variances.

<sup>17</sup>With a smoothing parameter of 100. We also produced indices calibrated to GDP's standard deviations. Results can be requested from the authors.

in industrialised countries and running a battery of robustness checks.

## 2.4. Robustness Checks

This section assesses the quality of our economic activity estimates. First, we show how different settings such as the in- or exclusion of deflated nominal variables affect the results. Second, we compare our scaling strategy with annual industrial production estimates from the League of Nations (1945) and Mitchell (2014). Third, we complement this comparison with qualitative records from the *International Abstract of Economic Statistics*.

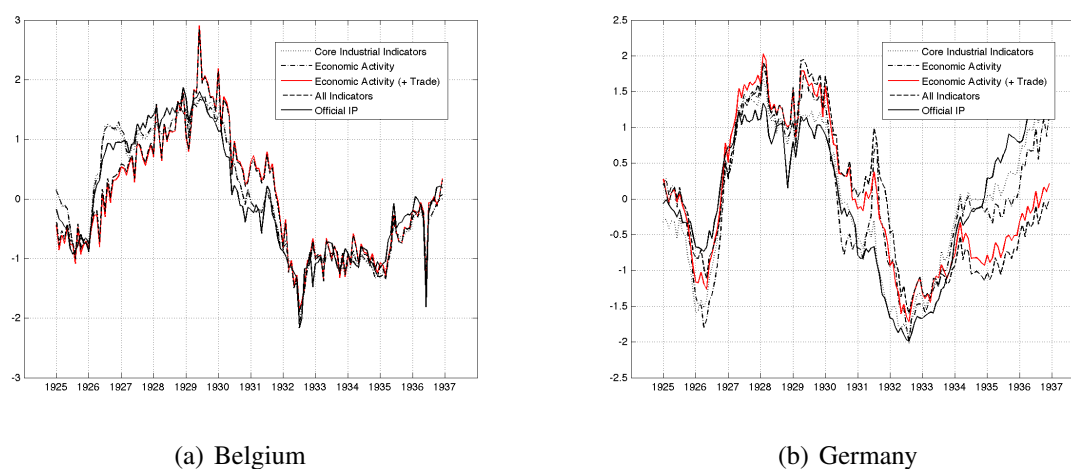


Figure 5: Economic Activity Indices and Industrial Production, 1925–1936. Indices standardised to unit variance.

We present four different types of economic activity indices, which include certain subsets of the available series.<sup>18</sup> Two countries will serve as illustration, but we refer the reader to the appendix with plots for each country. We define *Core Indicators* as those that include only real variables from the *Production, Sales, Employment, Transport* group. The *Economic Activity* index includes those and their nominal counterparts as well as other series apparently related to economic activity such as retail sales, bank clearings, and stock market indicators. Our preferred setup is the *Economic Activity & Trade* index, which adds trade variables to the *Economic Activity* index. Finally, the *All Indicators* measure of economic activity represents a “kitchen sink” approach. It includes all series we could gather for the particular country except for official industrial production and price indices.

In most cases, all four indices yield similar results. For example, Figure 5(a) presents the four different indices for Belgium and the official monthly production index published by the Belgian statistical office. Peaks and troughs are very similar. Clearly, the official production index drops

<sup>18</sup>We construct sub-indices only if more than seven series are available in the respective category.

more severely than the other indices in 1936, when strikes in the heavy industries took place (The Economist, 1936). This shows that the official index is more sensitive to outliers than our index. Whenever our index differs from official industrial production, it does so for a good reason as illustrated in Figure 5(b) for Germany. Our estimate including *Core Indicators* only follows the official industrial production index closely. If we include retail sales and some stock market variables (the *Economic Activity* index), the recovery appears to be slower, which is in line with the findings by Ritschl (2002) that German military spending crowded out domestic consumption. If trade variables (the *Economic Activity & Trade* and *All* indices) are included the recovery looks even more sluggish, which corresponds well with Germany's restrictive trade policies (see e.g. Irwin, 2012, p. 79).

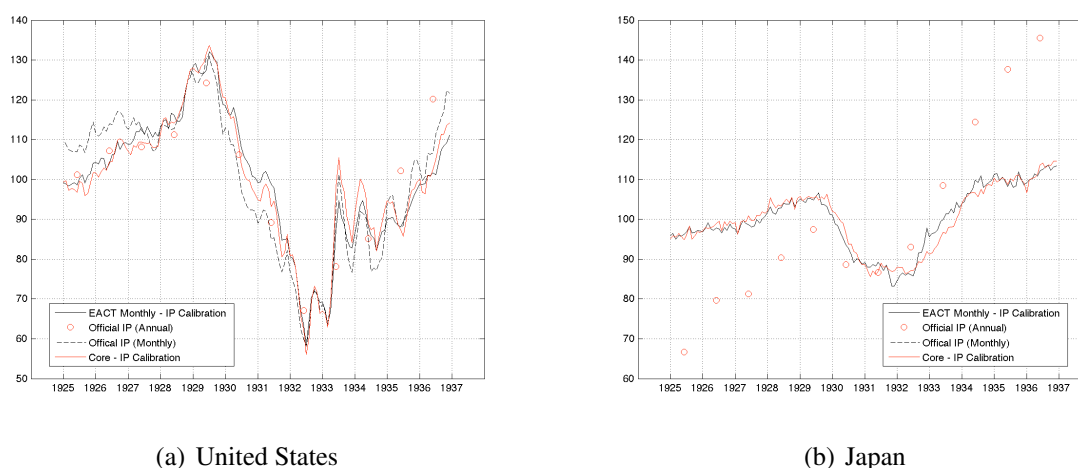


Figure 6: Comparison of Annual and Monthly Economic Activity Estimates (1925–1936 = 100)

Benchmarks of the economic activity indices against annual industrial production indices (see Appendix B for sources) do not always produce perfect matches. However, this is also true for the official monthly and annual industrial production indices. For instance, the 1925 annual index for the United States deviates by about 10% from the average of its monthly counterpart. While our scope, measuring economic activity, differs from analysing industrial production, one would expect both to move closely together in industrialised countries. Figure 6(a) plots the official monthly and annual American production indices and our *Core* and *Economic Activity & Trade* indices. The core index matches the official index quite well, even better than the official monthly index from 1925 to 1927. The *Economic Activity & Trade* index lags the rapid recovery, which is – given that industrial production is often thought of as a leading indicator – not very surprising. The fit, however, is quite well, which re-assures us of the quality of the economic activity index.

Figure 6(b) repeats the exercise for Japan for which no reliable monthly industrial production

index is available. The annual Japanese index more than doubles in the period from 1925 to 1936, which is rather surprising during a worldwide depression. Do the annual numbers really reflect economic activity? The *International Abstract* records for March 1927–December 1928 a “period affected by financial panic in February 1928,” and then until June 1929 a period of instability (Tinbergen, 1934, p. 128f). During this time the annual Japanese industrial production grows by about 25 %. Such evidence should worry those interested in “macroeconomic health,” which industrial production is usually thought to proxy for (see e.g. Romer, 1993, p. 20). In contrast to industrial production, our *Economic Activity & Trade* index shows a development more consistent with qualitative evidence. We went through this comparison for a number of other developing countries in our sample, and find more often than not that qualitative accounts are hard to reconcile with annual industrial production accounts if the latter are interpreted as a broad indices of well-being. In contrast, our *Economic Activity & Trade* index yields often better matches with qualitative assessments of economic activity.

We conclude that the calibration approach represents an alternative to interpolation of annual estimates because it takes much less information from annual indices: Instead of using the information of every benchmark year, we only take the standard deviation of the whole series. Since this yields reasonable results for countries with a priori representative industrial production data such as the US we are confident to generalise this scaling method to other countries for which the annual levels appear less reasonable such as Japan. Moreover, four different setups demonstrate robustness regarding potential selection bias. Where sub-indices differ from each other or official industrial production there is a plausible explanation.

## 2.5. Dating and Recession Statistics

This section describes the dating algorithm. In general, the procedure to identify peaks and troughs is the one used by the NBER. The algorithm was formulated in Bry and Boschan (1971), formalised in Harding and Pagan (2002), and coded in GAUSS and Matlab by James Engel.<sup>19</sup> We also use this code to generate measures such as duration and cumulative loss.

The algorithm identifies peaks and troughs in the logarithm of the series, where at any time  $t$  a peak in a series is defined by a value that is larger than the  $k$  preceding and following values (or smaller in the case of a trough). The NBER sets  $k = 2$  for quarterly data, and  $k = 5$  for monthly data. In the next step, the series is divided into phases called expansions (trough to peak) and contractions (peak to trough), from which characteristics may be calculated such as average duration, amplitude and cumulative loss. Additional restrictions for phase identification are the number of consecutive periods preceding and following a turning point (set to 6 months by

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<sup>19</sup>To be found at <http://www.ncer.edu.au/data>.

the NBER and accordingly by us), and the duration of a whole expansion-contraction cycle (15 months). Finally, the restriction for consecutive periods might be overruled if a the series declines by more than 36 % of its peak value.

We do not deviate from this procedure, but adjust the data before proceeding. Indices aggregated from monthly data are erratic at times, which may cause the algorithm not to find peaks or troughs although visual inspection suggests their presence. We smooth the economic activity indicator with an HP-filter with  $\lambda = 100$ .<sup>20</sup> This unusual low value for monthly series implies that the smoothed trend component is more similar to the original series than with the standard parameter  $\lambda = 14,400$ . The plots given in Appendix A show the original series, the smoothed series and the expansion and contraction phases derived from these.

Besides formally identifying peaks and troughs, we calculate durations and cumulative losses of the depressions around the globe. We operate with a balanced panel only and assess the duration as the number of months in recession in a pre-defined period (see Section 3.2). Cumulative loss is defined as the area between the index as the lower bound and an imaginary horizontal line drawn from the pre-Depression peak as the upper bound until June 1935.<sup>21</sup> This area is thus a combination of duration and amplitude. A value of 500 for example means that 500 monthly index points have been lost relative to an economy operating at last peak's capacity.<sup>22</sup>

## 2.6. A Global Index of Economic Activity

Aggregating our economic activity indices for individual countries to an index of world economic activity this paper illustrates global recovery in the 1930s. This section briefly describes the aggregation procedure. The benchmark index normally used in the literature for comparison purposes is Wagenführ's (1933, 1938) index for global industrial production, weighting national industrial production indices by the countries' share in global industrial production (Wagenführ, 1933, p. 42). We discuss the pitfalls of this index in more detail later.

As a corollary from our previous discussion, we employ relative 1928 GDP shares as weights because GDP is a broader economic activity measure than industrial production.<sup>23</sup> In order to

<sup>20</sup>Except for Spain and Yugoslavia, where we set  $\lambda = 400$ .

<sup>21</sup>After June 1935 several countries leave the sample. See also Bordo and Landon-Lane (2010) for a similar application for annual data.

<sup>22</sup>Since we re-based all indices to 1929, indices for individual countries are comparable in that they can be interpreted as a percentage of the respective level of economic activity in 1929.

<sup>23</sup>We tested alternative GDP datasets (Bolt and van Zanden, 2013; Barro and Ursua, 2010) but in spite of varying weights for some individual countries this did not make any notable difference to the global index. We use Bolt and van Zanden (2013), an update of the original Maddison dataset, because it covers more east European countries. We include evidence provided in Broadberry and Klein (2012) about changing boundaries, which is especially relevant for Europe in our period. As GDP estimates are not available for the period under consideration we however have to omit the Baltic states from the world index. In order to give an impression of the bias that arises from this, we



make the index comparable over time, we employ a balanced sample, which means that our world index of economic activity ends in July 1935.<sup>24</sup> The new world economic activity index covers more countries than Wagenführ’s (1933,1938) index and uses relative weights that reflect broad economic activity and not only industrial production. It thus reflects the state of the interwar world economy better, because fewer countries were industrialised then than today.

### 3. Scale, Scope, and Timing of the Crisis

In this part of the paper, we present the results from dating, measuring and mapping the crisis according to our new data set. In the methods section we already discussed one of the three main outcomes, namely the role of industrial production in assessing economic activity. In this section we highlight the two remaining ones: the speed of global recovery, and the recessions in Europe in the mid-1920s. Finally, we take a bird’s eye view on the world and map the start and severity of the Depression around the globe.

#### 3.1. Comparing The Great Depression with The Great Recession

The performance of the world economy during the Great Depression has again become a matter of public and academic interest during the recent “Great Recession.” As the US real estate market was one of the potential culprits of this crisis, the relationship between the performance in the US and elsewhere in the world played a particular role in the debate about the reasons for the crisis. This resembles the debate about the relation of US and world economic performance in the 1930s.

One of the most prominent contributions to this debate was the blog post *A Tale of Two Depressions* in 2009 by Barry Eichengreen and Kevin O’Rourke at [voxeu.org](http://voxeu.org), an economic policy portal.<sup>25</sup> In response to a contribution by Paul Krugman in his New York Times blog, they argued that a proper comparison would include more countries than the United States. In 2009, they argued that when looking at the world altogether, it fared no better in the Great Recession than in the 1930s. A year later, when much of the original loss had already been recovered, they still warned not to become too optimistic. Finally, in 2012, they saw their original pessimism confirmed by a slowdown of world industrial output growth about 40 months into the crisis.

With the benefit of six years hindsight and our new evidence on global economic activity, we reassess the now vs. then question. Essentially, our main result is that Eichengreen and O’Rourke

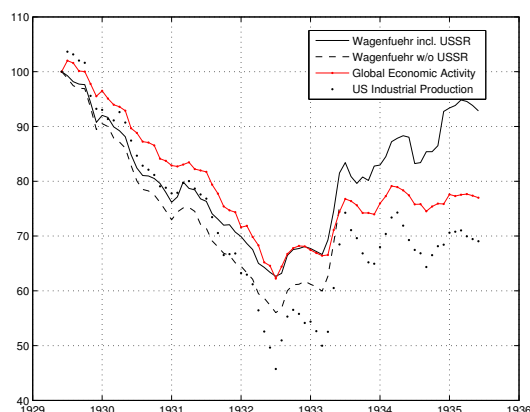
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calculated their GDP share of the World Economy in 1973 and then extrapolated these weights back to 1928 using population series. Including the Baltic states would allot them a combined share far below 1%.

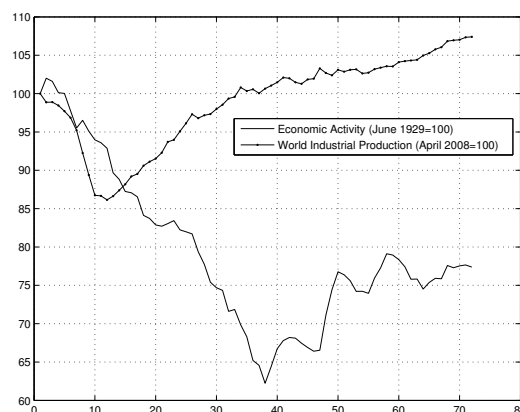
<sup>24</sup>We also calculated an index employing flexible weighting, which preserves the qualitative results presented here. Since the country samples to Wagenführ’s index are different, however, our original criticism might still hold, which is why we present the stable sample findings. The robustness results are obtainable on request.

<sup>25</sup>A longer version of this post was later published in *Economic Policy* (Almunia et al., 2010). For the version history and their latest update, see <http://www.voxeu.org/article/tale-two-depressions-redux>.

were overly pessimistic about the recent recovery relative to the 1930s because the historical evidence they relied on seems to be biased upwards.



(a) World Index of Economic Activity vs. World Industrial Production by Wagenführ (June 1929 = 100)



(b) Recoveries Now and Then

Figure 7: Six Years of Crisis - Now vs. Then

Figure 7(a) plots Wagenführ's (1933) world industrial production index including the USSR<sup>26</sup> shown by Eichengreen and O'Rourke as a yardstick, as well as the same index excluding the USSR, US industrial production, and our global economic activity index. In 1929, the Wagenführ index is a weighted average of 14 national industrial production indices weighted by their share in world industrial production (Wagenführ, 1933, p. 54). It covers about 78 % of world industrial production in 1929 and even more later on. Why would our index of global economic activity deviate so heavily in the recovery period? From our point of view, Wagenführ's index is flawed for four reasons. First, industrial production is a doubtful indicator of the general state of the economy as discussed above. Moreover, the inclusion of the Soviet Union, the high share of the US and the unbalanced sample raise doubts about the reliability of the index.

According to Wagenführ (1933, p. 55), there has been a debate about the in- or exclusion of the Soviet Union as it was the only large non-capitalistic country. The *Statistisches Reichsamt* calculated two versions of the index, in- and excluding the Soviet Union. Figure 7(a) indicates that including it has a large impact: When the recording of the index excluding the Soviet Union ends in 1933 (for unknown reasons), it lags the one including it by about 10 %. In 1928 Stalin launched the first five-years plan and forced industrialisation (Buyst and Franaszek, 2010, p. 222). According to Wagenführ (1933, p. 68), Soviet output doubled from January 1929 until the end of 1932 despite

<sup>26</sup>For the years after 1931, the index was published in various issues of *Vierteljahreshefte für Konjunkturforschung*.

the worldwide crisis.<sup>27</sup> Besides this rather doubtful increase in “macroeconomic health” and the common concerns about the quality of Soviet data, the rapid increase in industrial output might also be considered an extreme case of catch-up. In sum, the Soviet Union’s considerable share in the world economy introduces an upward bias in Wagenführ’s index.

Another problem is related to the high share of the US, which is about 57 % including and 60 % excluding the Soviet Union in 1929.<sup>28</sup> Clearly, if one wants to measure world industrial output it is plausible to weight the countries’ contributions by their shares in world industrial output. However, if one is rather interested in the state of the world economy including the other sectors as well, one should choose a different weighting as less industrialised countries are grossly under-represented in Wagenführ’s index. Derived from GDP, the US receives a weight of 35% in our index.

The weighting problem is somewhat aggravated because Wagenführ’s index is not balanced over time. Countries for which new indices become available are most likely chained in.<sup>29</sup> Hence, the index is driven more strongly by the US in 1929 than in 1936 as the relative importance of the United States declines, not because of fundamentals but because of data availability. The comparison of the US index and the Wagenführ index [Figure 7(a)] in the early years supports this suspicion. In sum, we are sceptical that this index proxies the state of the world economy in an appropriate way, and thus provide an alternative account based on our new data.

The red graph in the left panel of Figure 7(a) suggests that global recovery was slower than Wagenführ’s index indicates. The difference stems from our revision of the national indices, but also from our bigger sample and the exclusion of the Soviet Union. In this light, Eichengreen and O’Rourke’s assessment of the recovery of today’s world economy – in which industrial production is certainly a better indicator of economic activity – must be seen as too pessimistic. While the downturn during the first twelve months of the crisis after April 2008 was at least as bad as in the 1930s, the subsequent recovery was remarkable compared to the 1930s. Economic activity in the 1930s only hit bottom after three years into the crisis while after 2008 it reached its trough after one year. Eichengreen and O’Rourke still warned that “the striking new development is how the growth of global industrial output now appears to be slowing” in their 2012 update, which it did not in the 1930s according to Wagenführ’s industrial production index the same time into the crisis. In contrast, we find that the 1930s recovery was very sluggish. Six years after the start of the crisis, economic activity had reached only 77% of its pre-Depression peak, whereas industrial

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<sup>27</sup>The peculiarity of Soviet growth during the world crisis is also discussed in League of Nations (1931, p. 209).

<sup>28</sup>Own calculations based on Wagenführ (1933, p. 54, 68).

<sup>29</sup>It is not entirely clear how exactly Wagenführ approached this problem, but when Italy drops out for unknown reasons, the indices were chained together as documented in the 1935 issue of the *Vierteljahreshefte für Konjunkturforschung*.

production six years after 2008 stood at almost 110%.

### 3.2. *The Prelude and Onset of the Great Depression*

The added value of our new data does not only lie in producing new aggregates, but in the chance to zoom in on a large number of countries. This section dates the onset of the Depression around the globe and analyses the years leading to the Depression. It turns out that the timing of the Depression varied marginally around the globe. More interestingly, a substantial number of countries were plagued by strong recessionary tendencies between 1925 and 1928.

Table 1: Percentage of Months in Recession, January 1925 – January 1928

Recessionary Tendencies in the Mid-1920s					
Strong (>20 %)		Mild (>0 %<20 %)		None	
Germany	( 54 %)	Czechoslovakia	( 19 %)	Canada	( 0 %)
Italy	( 50 %)	Denmark	( 19 %)	Japan	( 0 %)
Great Britain	( 46 %)	Sweden	( 19 %)	Lithuania	( 0 %)
Norway	( 46 %)	Belgium	( 17 %)	Spain	( 0 %)
South Africa	( 38 %)	Finland	( 17 %)	Switzerland	( 0 %)
Poland	( 29 %)	Netherlands	( 15 %)	United States	( 0 %)
France	( 27 %)	Hungary	( 13 %)		
Austria	( 23 %)	Estonia	( 10 %)		

To analyse the run-up to the Great Depression, we take a look at a slightly smaller, balanced sample for which we have data for 1925–1928. We calculate the percentage number of months in recession in Table 1.<sup>30</sup> The first column shows that eight European economies including its largest ones, experienced recessions, which illustrates the instability of this period – despite the notion that those were years of recovery. However, as Kindleberger (1986, p. 14) notes “the state of recovery achieved contained certain seeds of trouble, initial conditions from which the world depression of 1929 emerged.” Among the most troubled were large industrialised economies such as Germany and Great Britain, but also smaller countries such as Norway and Austria. Moreover, mild recessions occurred across Europe and there were few countries enjoying steady growth. Our results are in line with Wolf’s (2010) account of “Europe’s long Depression.”<sup>31</sup> They raise doubts about the view by Lewis (1949, p. 52) “that most of what happened elsewhere has to be explained in terms of the American contraction” (a view cited and shared in Romer, 1993, p. 20). This is not to say that developments in the US did not matter. However, the American monetary contraction

<sup>30</sup>Note that this measure is invariant to our calibration of the indices.

<sup>31</sup>Ritschl and Straumann (2010) take a similar view using annual data.

of 1928 and the real contraction in 1929 hit already very fragile economies across the Atlantic Ocean.

Figure 8 maps the global onset of the Depression in three categories: countries that entered between mid-1928 and early 1929 (only Finland and Poland), countries that entered between April and November 1929, and the latecomers (the Baltic states, Yugoslavia, Bulgaria, France and Denmark). The results are largely consistent with Romer's (2004) pre-Depression peaks based on quarterly data, but some differences appear when we fully exploit the monthly frequency of our data (Table 2 in Appendix 2).

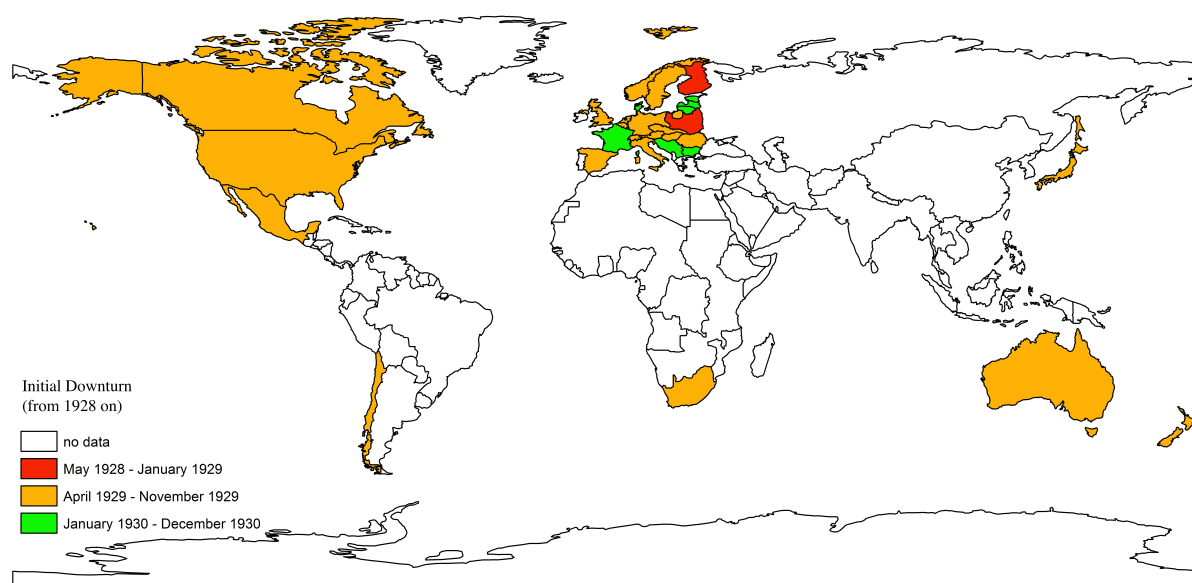


Figure 8: The Start of the Depression – An Overview

According to our data Germany's depression started in the summer of 1929, not in early 1928. The difference comes from Germany's unique double dip with a first but not final peak in 1928. Most of the corrections affect alleged latecomers such as Britain but also Japan, Sweden and South Africa. We date all of them between spring and fall 1929, not in 1930. Even France entered the Depression already by January 1930. This is especially interesting, since the literature has tried to find numerous explanations for why it was affected so late by the Depression (Laufenburger, 1932). In fact, it seems France was actually only several months behind the majority of its neighbours. The Baltic states, Bulgaria and Yugoslavia were also affected relatively late which remains somewhat surprising because they were mainly primary producers.

In general, however, despite the higher temporal resolution we find that the timing of the Depression differed only marginally across our sample. No evidence is found that the American crisis preceded most of the rest of the world. Taking this finding and considering the recessionary

tendencies between 1925 and 1928, it is unlikely that the US-centred Lewis view holds. Large parts of Europe had already been in troubled water for some time when the storm of 1929 hit the world economy.

### *3.3. The Severity of the Depression – A Bird’s Eye View*

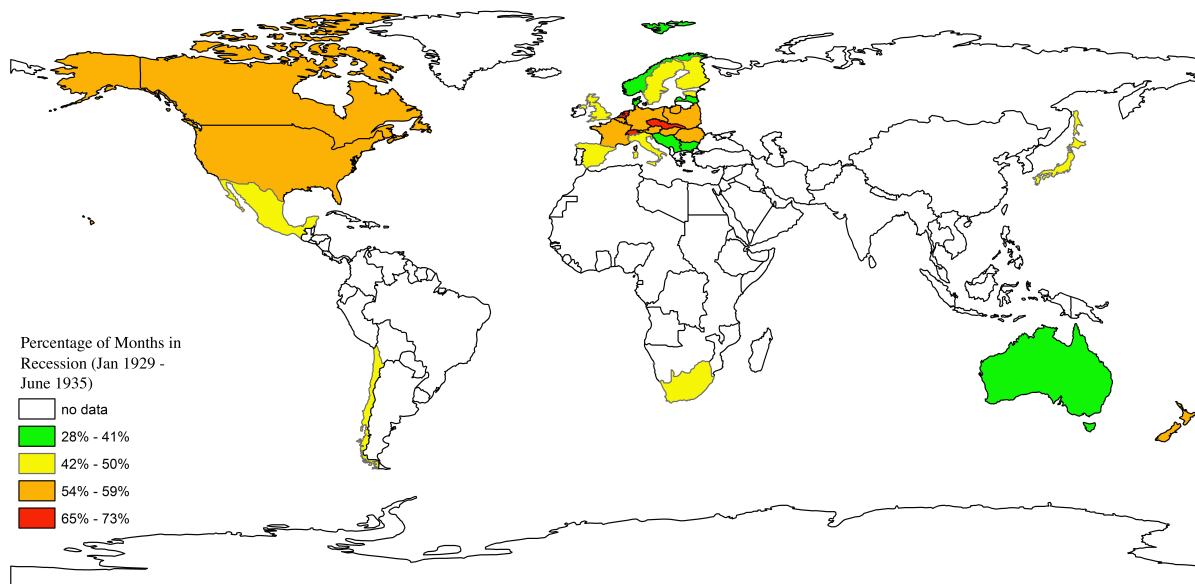
While the Depression onset does not vary strongly, the scale of the Depression differed substantially. The severity of the individual recessions is best understood along two different dimensions: duration and cumulative loss, the latter being a function of duration and amplitude.

Figure 9(a) maps the longevity of the crisis and Figure 9(b) the cumulative loss between the respective pre-Depression peak until June 1935. With the exception of Yugoslavia and Bulgaria, Central and Eastern Europe were particularly hard hit in terms of crisis duration. Consistent with the historical accounts, the American and Canadian Depressions were very long lasting and the Scandinavian countries managed to escape the Depression relatively early (see e.g. Grytten, 2008).

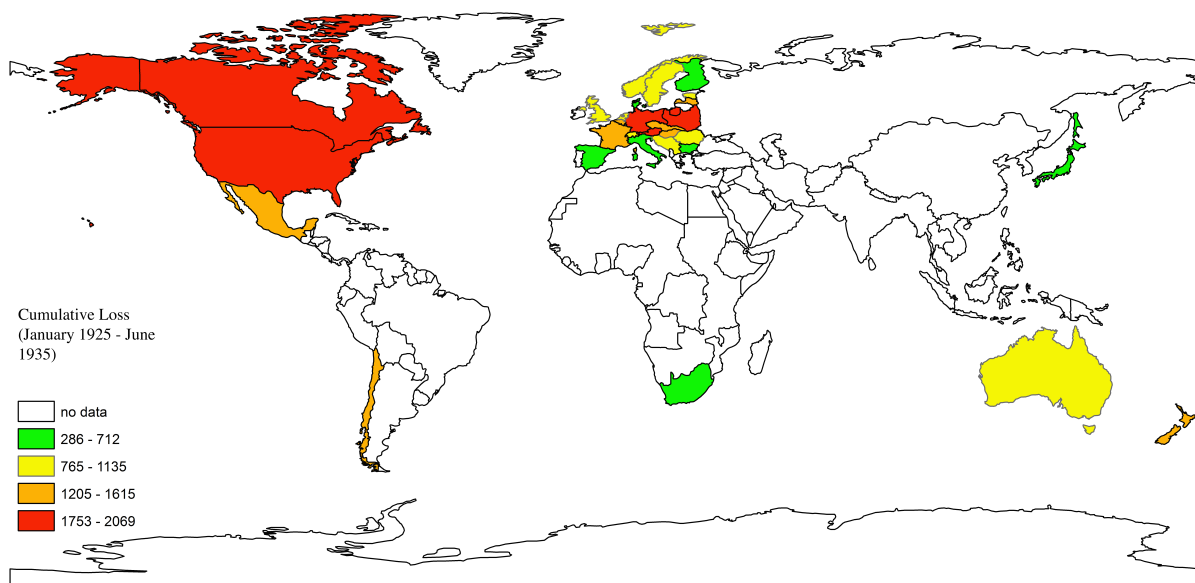
However, the new indices also contradict some well-established narratives. For instance, previous research suggests that “Spain virtually escaped the Great Depression” because it was not on the gold standard (e.g. Choudhri and Kochin, 1980, p. 573). Temin (1993, pp. 92, 97) argues that Japan also avoided a long-lasting Depression by massively devaluing in the end of 1931 and had not experienced real income losses before. While the Depression was not particularly deep in Spain (Figure 9(b)), her recession was as long-lasting as in any other countries with 45 % of the months between January 1929 and July 1935 in recession, and recovered at a very slow pace. In contrast, Japan indeed experienced a strong recovery from 1932 onwards, but our monthly indicator still depicts a stronger recession than annual industrial production evidence suggests.

The duration map already exhibits some geographical patterns of the crisis with North-America and Central and Eastern Europe suffering the longest from the crisis, and crisis duration declining with distance from these two centres. This pattern is borne out even more strongly by the cumulative loss map (Figure 9(b)). In terms of this metric, the American, Canadian, Polish, Austrian and German Depressions were the most severe, which is in line with earlier findings about the amplitudes of the Depression (Romer, 1993, p. 22). What is missing from Romer’s account, though, for lack of data, is how the rest of the world forms a pattern of three concentric circles with France, Belgium, Latvia, Czechoslovakia, and Hungary in Europe, and Mexico and Chile being part of the second innermost circle (depicted in orange). Then, Norway, Sweden, Estonia, Britain, Switzerland, the Netherlands, Yugoslavia, Australia and Romania form the third circle, and Finland, Spain, Italy, Bulgaria, Japan and South Africa are part of the last one. The only exception would be Denmark, which is too little affected according to this pattern, and New Zealand, which would be affected too much.

Identifying deep structural causes for these stylised facts must be left to subsequent research.



(a) Percentage of Months in Recession, January 1929 – June 1935



(b) Cumulative Loss, relative to pre-Depression Peak until June 1935

Figure 9: Mapping Duration and Severity of the Depression

We can nevertheless spell out some probable reasons for our observations. Given the role of distance, trade has the potential to be an important transmission channel for the course of crises and recoveries.

The trade channel has been emphasised by the comovement literature for samples covering recent periods (Baxter and Kouparitsas, 2005) as well as the Great Depression (Mathy and Meissner,

2011). While this literature is mainly concerned with bilateral comovement at business cycle frequencies, mapping the Depression suggests that demand from neighbouring countries may have played an important role for depth and duration of the crisis, which is consistent with the ideas of contemporaries (Lewis, 1949, p. 60). This might explain why some countries experienced long but mild recessions and others short but deep ones. Because demand from close trading partners is a variable usually omitted in the standard studies on the recovery (see e.g. Eichengreen and Sachs, 1985; Campa, 1990; Bernanke, 1995), we see potential for developing the literature in this direction. This does not, however, exclude alternative explanations since it leaves still plenty of room for a monetary transmission channel as the pattern we present is also roughly consistent with monetary blocs after 1931. A connection between both arguments would lead to the endogenous currency bloc literature (Wolf and Ritschl, 2011). Countries may not only have selected themselves into currency blocs based on their trade ties, but also into a certain recovery pattern.

By assessing the depth of the Depression along two dimensions, we find large consistencies with the literature. However, other narratives such as the avoidance or near-avoidance of the Depression in Japan and Spain deserve reassessment when we compare the duration of crises around the globe. Mapping the Depression severity suggests that trade linkages might have played an important role for the recovery, potentially explaining the within-country variation along the two dimensions of crisis severity.

#### **4. Conclusion**

This paper introduces a monthly time series data set on the worldwide economic crisis between the World Wars. We provide indicators of economic activity for 30 countries, and demonstrate that the commonly used industrial production indices are not a good proxy for assessing crises and recoveries. In the presence of unconditional convergence in industrial production, they are not comparable without controlling for the initial level of industrialisation. Therefore, we develop a simple but powerful framework to estimate alternative economic activity indices that are comparable across time and space and which are more broadly defined than industrial production. This leads to several reassessments regarding the global impact of the Great Depression.

On the aggregate level, the new index of world economic activity indicates that the recovery in the 1930s was more sluggish than previous evidence suggested (Wagenführ, 1938). In this light, the recovery after 2008 appears less gloomy than argued famously by Barry Eichengreen and Kevin O'Rourke (Almunia et al., 2010), allowing for a more optimistic assessment of the recovery from the Great Recession and the accompanying economic policy measures.

Our evidence also sheds new light on the onset of the Depression. Fourteen out of thirty countries, including Germany, Britain and Italy, reached their tipping point earlier or in the same month



as the US. Furthermore, the immediate run-up to the Depression is characterised by strong recessionary tendencies outside the US, which is consistent with a “Long European Depression” and puts US-centred explanations for the global extent of the Great Depression into perspective.

In thrust with the existing literature, we find that Spain experienced a long-lasting Depression albeit floating her currency throughout the interwar period. Moreover, mapping the severity of the Depression along two dimensions, duration and cumulative loss, suggests that some countries experienced long, but not deep recessions. This might imply importance of the trade channel for the recovery, a frequently omitted variable in studies on the recovery from the Great Depression.

In future, researchers may use this dataset to further investigate the origin and the transmission of the interwar economic crisis. While the gold standard literature focused on comparing countries, the larger number of observations, both in the cross-sectional and time-frequency dimension, will facilitate detailed research on the interaction between countries.

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## 5. References

- Accominotti, O., 2012. Asymmetric propagation of financial crises during the Great Depression. Modern and comparative economic history seminar, January 26, 2012, London School of Economics and Political Science.
- Almunia, M., Bénétrix, A., Eichengreen, B., O'Rourke, K., Rua, G., 2010. From Great Depression to great credit crisis: Similarities, differences and lessons. *Economic Policy* 25 (62), 219–265.
- Archer, S., 1989. Industrial protection and employment creation in South Africa during the inter-war years. *South African Journal of Economic History* 4 (2), 5–24.
- Barro, R., Ursua, J., 2010. Barro-Ursua Macroeconomic Dataset. <http://rbarro.com/data-sets>.
- Baxter, M., Kouparitsas, M. A., 2005. Determinants of business cycle comovement: a robust analysis. *Journal of Monetary Economics* 52 (1), 113–157.
- Bénétrix, A. S., O'Rourke, K. H., Williamson, J. G., 2012. The spread of manufacturing to the periphery 1870-2007: Eight stylized facts. NBER Working Paper no. 18221.
- Bernanke, B., 1995. The macroeconomics of the Great Depression: A comparative approach. *Journal of Money, Credit and Banking* 27 (1), 1–28.
- Board of Governors of the Federal Reserve System, 1943. Banking and Monetary Statistics 1914–1941. Federal Reserve Bank of St. Louis).
- Bolt, J., van Zanden, J. L., 2013. The first update of the Maddison project; re-estimating growth before 1820. Maddison-Project Working Paper WP-4, University of Groningen.
- Bordo, M. D., Landon-Lane, J. S., 2010. The global financial crisis of 2007-08: Is it unprecedented? Tech. rep., NBER Working Paper no. 16589.
- Broadberry, S., Klein, A., 2012. Aggregate and per capita GDP in Europe, 1870-2000: continental, regional and national data with changing boundaries. *Scandinavian Economic History Review* 60 (1), 79–107.
- Bry, G., Boschan, C., 1971. Cyclical analysis of time series: selected procedures and computer programs. NBER.
- Burns, A. F., Mitchell, W. C., 1946. Measuring Business Cycles. NBER Book Series Studies in Business Cycles. New York: National Bureau of Economic Research.
- Buyst, E., Franaszek, P., 2010. The world wars and the interwar period. Sectoral developments, 1914-1945. Cambridge (UK): Cambridge University Press, Ch. 9, pp. pp. 208–231.
- Campa, J., 1990. Exchange rates and economic recovery in the 1930s: An extension to Latin America. *The Journal of Economic History* 50 (3), 677–682.
- Choudhri, E. U., Kochin, L. A., 1980. The exchange rate and the international transmission of business cycle disturbances: Some evidence from the Great Depression. *Journal of Money, Credit and Banking* 12 (4), 565–574.
- Eichengreen, B., 1992. Golden fetters. The gold standard and the Great Depression, 1919–1939. New York: Oxford University Press.
- Eichengreen, B., Sachs, J., 1985. Exchange rates and economic recovery in the 1930s. *Journal of Economic History* 45 (4), 925–946.
- Eichengreen, B. J., 1982. Did speculation destabilize the French franc in the 1920s? *Explorations in Economic History* 19 (1), 71–100.
- Federal Reserve Board, 1928. Annual report of the Bank of Italy. *Federal Reserve Bulletin* July, 488–497.
- Fernandez, R. B., 1981. A methodological note on the estimation of time series. *The Review of Economics and Statistics* 63 (3), 471–476.
- Friedman, M., Schwartz, A. J., 1963. A monetary history of the United States, 1867–1960. Princeton University Press. Princeton.

- Grytten, O. H., 2008. Why was the great depression not so great in the Nordic countries? economic policy and unemployment. *European Journal of Economic History* 37 (2–3), 369–393.
- Harding, D., Pagan, A., 2002. Dissecting the cycle: a methodological investigation. *Journal of Monetary Economics* 49 (2), 365–381.
- Hodrick, R. J., Prescott, E. C., 1997. Postwar US business cycles: an empirical investigation. *Journal of Money, Credit, and Banking* 29 (1), 1–16.
- Howson, S., 1980. *Sterling's Managed Float: The Operations of the Exchange Equalisation Account, 1932–1939*. Vol. 46 of *Princeton Studies in International Finance*. International Finance Section.
- Irwin, D., 2012. *Trade policy disaster: lessons from the 1930s*. Cambridge (UK) and London: MIT Press.
- Ivanov, M., Tooze, A., 2007. Convergence or decline on Europe's southeastern periphery? Agriculture, population, and GNP in Bulgaria, 1892–1945. *The Journal of Economic History* 67 (3), 672–703.
- Karnups, V. P., 2012. The 1936 devaluation of the Lat and its effect on Latvian foreign trade. *Humanities and Social Science Latvia* 20 (1), 49–62.
- Kindleberger, C. P., 1986. *The world in depression, 1929–1939*. Berkeley and Los Angeles: University of California Press.
- Kose, A., Otrok, C., Whiteman, C. H., 2003. International business cycles: world, region and country-specific factors. *American Economic Review* 93 (4), 1216–1239.
- Laufenburger, H., 1932. Die weltwirtschaftliche Stellung des Elsaß. *Weltwirtschaftliches Archiv* 35, 233–249.
- League of Nations, 1926. *Statistical Yearbook 1938–39*. Economic Intelligence Service.
- League of Nations, 1928. *Statistical Yearbook 1928*. Economic Intelligence Service.
- League of Nations, 1929. *Statistical Yearbook 1929*. Economic Intelligence Service.
- League of Nations, 1931. *The course and phases of the world depression*. In: Report presented to the General Assembly. 22.1931.II HA. World Peace Foundation.
- League of Nations, 1933. *Statistical Yearbook 1932–1933*. Economic Intelligence Service.
- League of Nations, 1945. *Industrialization and Foreign Trade*. League of Nations and League of Nations. Economic, Financial, and Transit Dept.
- Lewis, W. A., 1949. *Economic survey 1919-1939*. London [etc.]: Allen and Unwin.
- Mathworks, 2013. Seasonal adjustment using  $s_{n \times m}$  seasonal filters. Online at <http://www.mathworks.de/de/help/econ/seasonal-adjustment-using-snx7m-seasonal-filters.html>.
- Mathy, G. P., Meissner, C. M., 2011. Business cycle co-movement: Evidence from the Great Depression. *Journal of Monetary Economics* 58 (4), 362–372.
- Methorst, J., 1938. *International Abstract of Economic Statistics, 1930-1936*. The Hague: Permanent Office of the International Statistical Institute.
- Mitchell, B., 2014. *International historical statistics*. <http://www.palgraveconnect.com/pc/connect/archives/ihs.html>.
- Mitchell, J., Solomou, S., Weale, M., 2012. Monthly GDP estimates for inter-war Britain. *Explorations in Economic History* 49 (4), 543–556.
- Mitic, M., 1936. *Statistisches Handbuch der Weltwirtschaft* (Book Review). *Zeitschrift für Nationalökonomie* 7 (4), 569–570.
- Otrok, C., Whiteman, C. H., 1998. Bayesian leading indicators: measuring and predicting economic conditions in iowa. *International Economic Review* 39 (4), 997–1014.
- Proietti, T., Moauro, F., 2006. Dynamic factor analysis with non-linear temporal aggregation constraints. *Journal of the Royal Statistical Society: Series C (Applied Statistics)* 55 (2), 281–300.
- Quilis, E., 2013. A MATLAB library of temporal disaggregation and interpolation methods: Summary.

- <http://www.mathworks.com/matlabcentral/fileexchange/39770-temporal-disaggregation-library>.
- Ritschl, A., 2002. Deficit spending in the Nazi recovery, 1933-1938: A critical reassessment. *Journal of the Japanese and International Economies* 16 (4), 559–582.
- Ritschl, A., Sarferaz, S., 2014. Currency versus banking in the financial crisis of 1931. *International Economic Review* 55 (2), 349–373.
- Ritschl, A., Straumann, T., 2010. Business cycles and economic policy, 1914–1945. *The Cambridge Economic History of Modern Europe: Volume 2, 1870 to the Present*. Cambridge (UK): Cambridge University Press.
- Rodrik, D., 2013. Unconditional convergence in manufacturing. *The Quarterly Journal of Economics* 128 (1), 165–204.
- Romer, C. D., 1993. The nation in depression. *The Journal of Economic Perspectives* 7 (2), 19–39.
- Romer, C. D., 2004. Great depression. *Encyclopedia Britannica*.
- Roses, J., Wolf, N., 2010. Aggregate growth, 1913–1950. *The Cambridge Economic History of Modern Europe: Volume 2, 1870 to the Present*. Cambridge (UK): Cambridge University Press.
- Sarferaz, S., Uebele, M., 2009. Tracking down the business cycle: A dynamic factor model for Germany 1820–1913. *Explorations in Economic History* 46 (3), 368–387.
- Spiethoff, A., 1955. *Die wirtschaftlichen Wechsellagen*. Vol. 1. Tübingen: J. C. B. Mohr.
- Spree, R., 1977. *Die Wachstumszyklen der deutschen Wirtschaft von 1840 bis 1880*. Berlin: Duncker und Humblot.
- Spree, R., 1978. *Wachstumstrends und Konjunkturzyklen in der deutschen Wirtschaft von 1820 bis 1913*. Göttingen: Vandenhoeck und Rupprecht.
- Stajić, S., 1957. Realni nacionalni dohodak Jugoslavije u periodima [real national income of Yugoslavia in periods] 1928–1939 i 1947–1956. *Ekonomski problemi*.
- Statistisches Reichsamt, 1936. *Statistisches Handbuch der Weltwirtschaft*. Berlin: Verlag für Sozialpolitik, Wirtschaft und Statistik.
- Statistisches Reichsamt, 1937. *Statistisches Handbuch der Weltwirtschaft*. Berlin: Verlag für Sozialpolitik, Wirtschaft und Statistik.
- Stock, J., Watson, M. W., 1991. A probability model of the coincident economic indicators. Cambridge (UK): Cambridge University Press, pp. 63–90.
- Stock, J. H., Watson, M. W., 1989. New indexes of coincident and leading economic indicators. In: *NBER Macroeconomics Annual 1989, Volume 4*. MIT Press, pp. 351–409.
- Temin, P., 1993. Transmission of the great depression. *The Journal of Economic Perspectives* 7 (2), 87–102.
- The Economist, 1929. Scandinavia. *The Economist Historical Archive 1843–2008* 18 May, 1929, 484.
- The Economist, 1933. An index of business activity. *The Economist Historical Archive 1843–2008* Supplement to the Economist, 21 Oct. 1933, 1–8.
- The Economist, 1934. A review of Lithuania's economic situation for the year 1934. *The Economist Historical Archive 1843–2008* 16 Feb. 1935, 370–371.
- The Economist, 1936. Strikes in Belgium. *The Economist Historical Archive 1843–2008* 20 Jun. 1936, 667.
- Tinbergen, J., 1934. *International Abstract of Economic Statistics, 1919–1930*. The Hague: Netherland's Bureau of Statistics.
- Wagenführ, R., 1933. *Die Industriewirtschaft: Entwicklungstendenzen der deutschen und internationalen Industrieproduktion 1860 bis 1932*. Vierteljahrshefte zur Konjunkturforschung. Sonderheft 31. Berlin: Hobbings.
- Wagenführ, R., 1938. Produktionsindexziffern und ihre Probleme. *Vierteljahrshefte zur Wirtschaftsforschung* 13, 87–109.
- Williamson, S. H., 2014. Seven ways to compute the relative value of a US dollar amount – 1774 to present.

<http://www.measuringworth.com/calculators/uscompare/index.php>.

- Wolf, N., 2008. Scylla and Charybdis. Explaining Europe's exit from gold, January 1928–December 1936. *Explorations in Economic History* 45 (4), 383–401.
- Wolf, N., 2010. Europe's Great Depression: coordination failure after the First World War. *Oxford Review of Economic Policy* 26 (3), 339–369.
- Wolf, N., Ritschl, A. O., 2011. Endogeneity of currency areas and trade blocs: Evidence from a natural experiment. *Kyklos* 64 (2), 291–312.

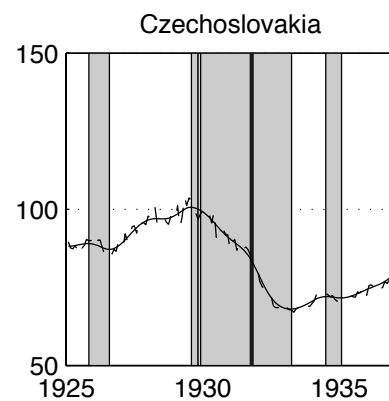
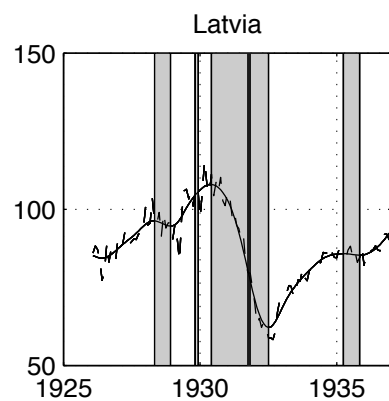
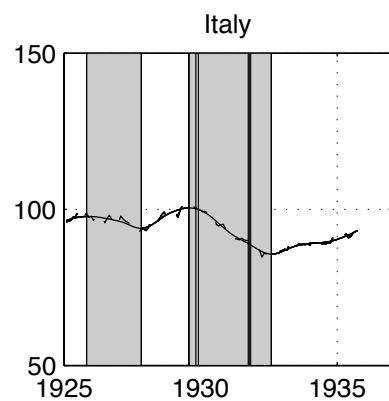
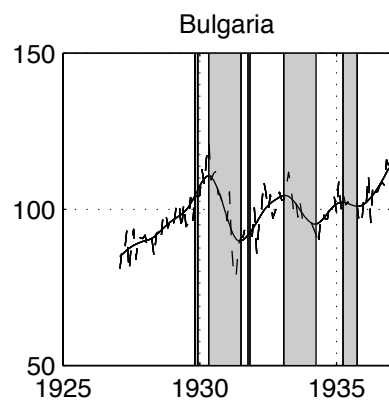
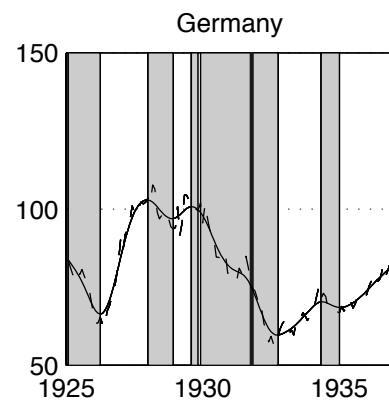
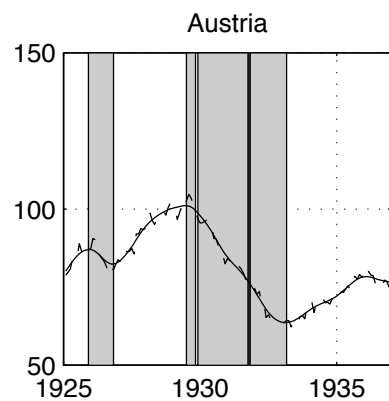
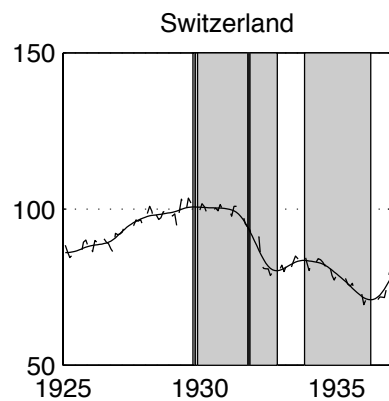
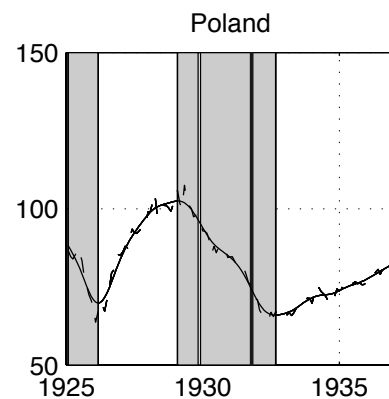
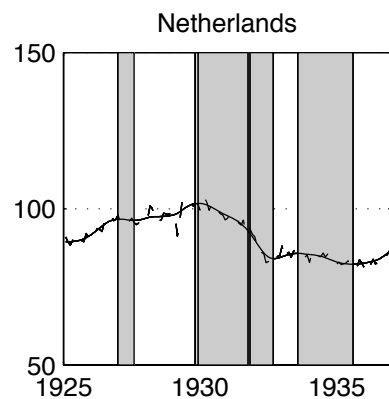
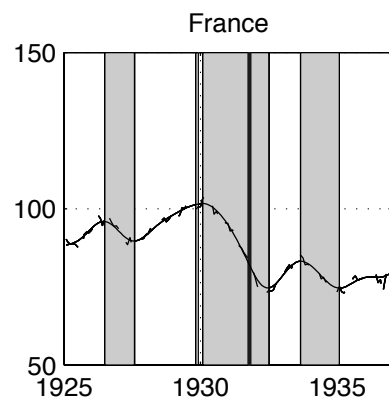
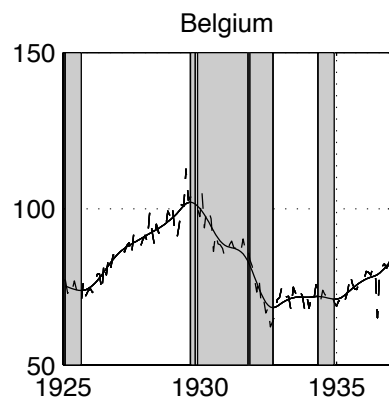
# Appendices

## A. Dating the Depression

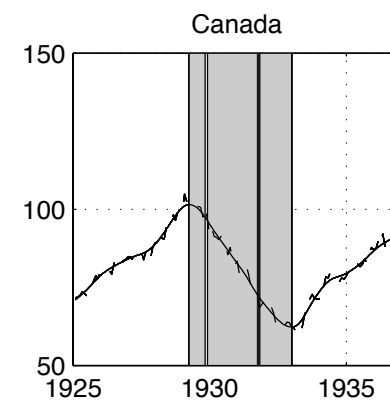
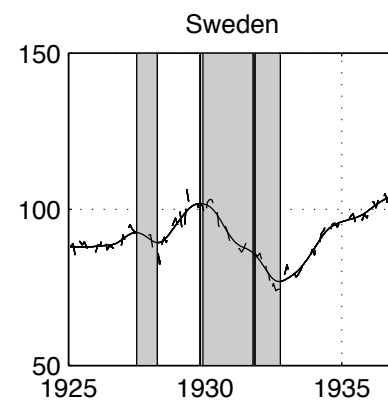
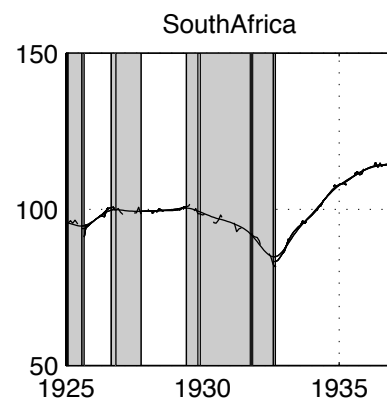
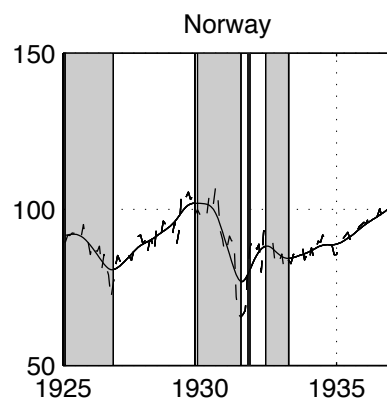
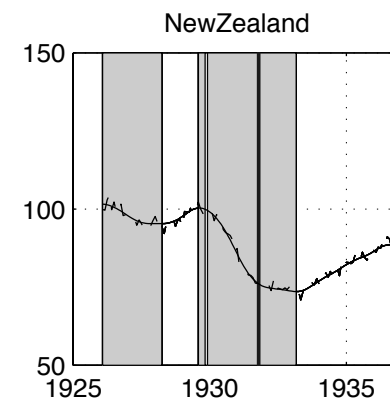
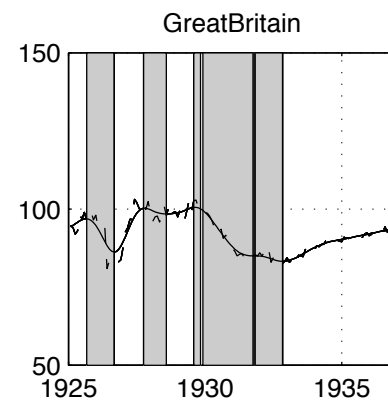
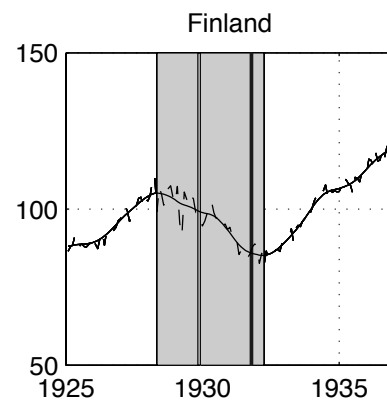
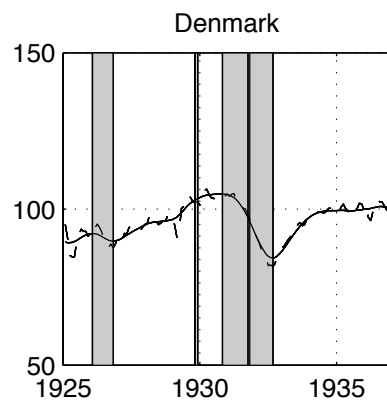
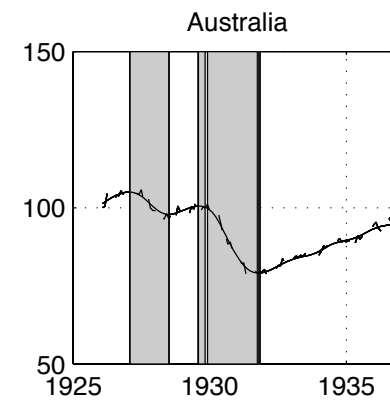
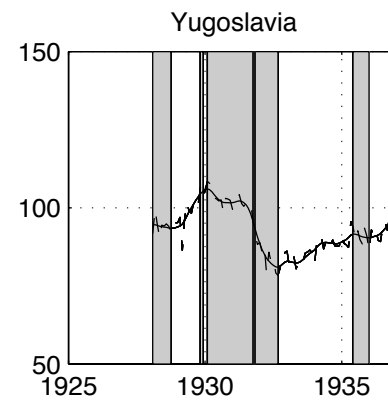
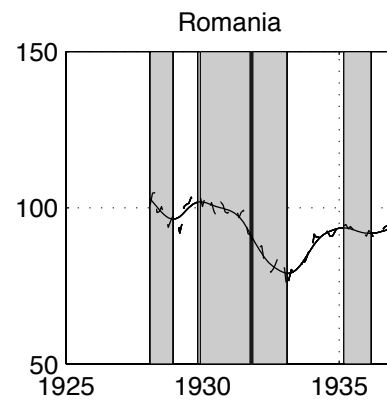
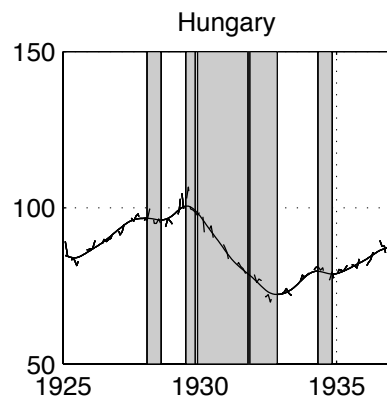
This section provides the plots from our dating procedure for each country's "trade and economic activity" index scaled to the respective standard deviation of annual industrial production (missing countries are due to the lack of annual industrial production data). Shaded areas indicate recessions and the black vertical bars mark October 1929 (stock market crash) and September 1931 (Britain leaves the gold standard) respectively. All indices are based on the same year (1929 = 100) and the graphs show the smoothed series, the original series and the recession dating. Table 2 compares our results with the ones by Romer (2004).

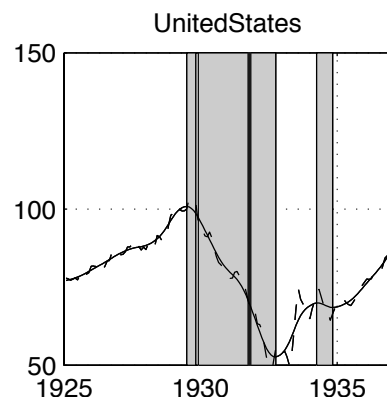
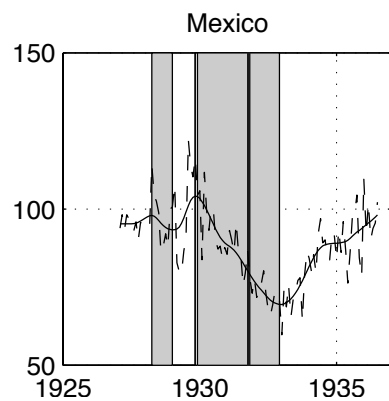
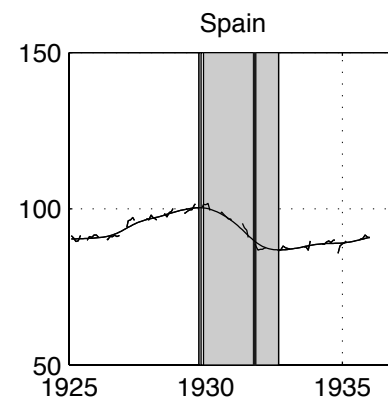
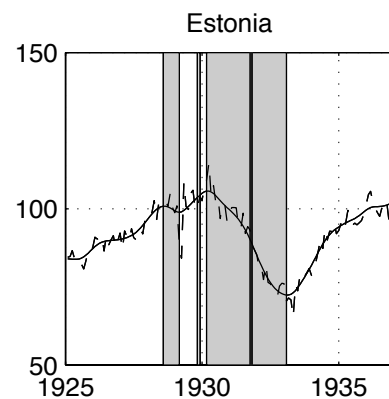
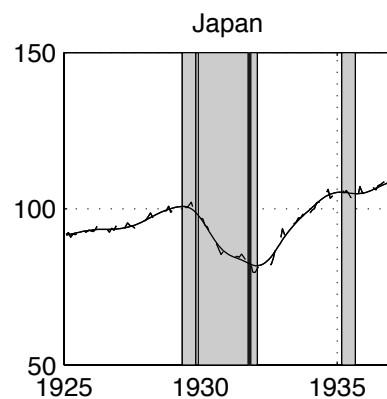
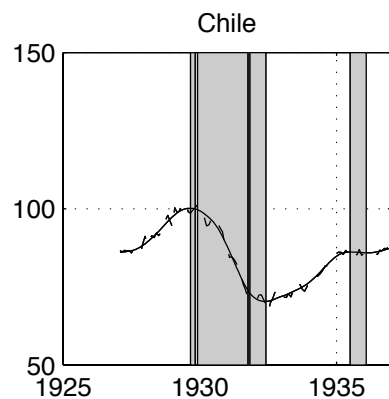
Table 2: Comparison of Starting Dates

	Romer (2004)		New Data			
	Quarterly		Quarterly		Monthly	
	Peak	Trough	Peak	Trough	Peak	Trough
Australia			1929 Q3	1931 Q3	Jul-29	Sep-31
Austria			1929 Q3	1933 Q1	Jul-29	Feb-33
Belgium	1929 Q3	1932 Q4	1929 Q3	1932 Q3	Aug-29	Aug-32
Bulgaria			1930 Q2	1931 Q2	May-30	Jul-31
Canada	1929 Q2	1933 Q2	1929 Q2	1932 Q3	Apr-29	Dec-32
Chile			1929 Q3	1932 Q2	Aug-29	May-32
Czechoslovakia	1929 Q4	1933 Q2	1929 Q3	1933 Q1	Jul-29	Mar-33
Denmark	1930 Q4	1933 Q2	1930 Q4	1932 Q3	Oct-30	Aug-32
Estonia			1930 Q1	1933 Q1	Feb-30	Jan-33
Finland			1928 Q2	1932 Q1	May-28	Mar-32
France	1930 Q2	1932 Q3	1930 Q1	1932 Q2	Jan-30	Jun-32
Germany	1928 Q1	1932 Q3	1929 Q3	1932 Q3	Jul-29	Sep-32
Great Britain	1930 Q1	1932 Q4	1929 Q3	1932 Q4	Jul-29	Oct-32
Hungary			1929 Q3	1932 Q4	Jul-29	Oct-32
Italy	1929 Q3	1933 Q1	1929 Q3	1932 Q3	Jul-29	Jul-32
Japan	1930 Q1	1932 Q2	1929 Q2	1932 Q1	May-29	Jan-32
Latvia			1930 Q2	1932 Q2	May-30	Jun-32
Lithuania			1930 Q4	1932 Q2	Dec-30	Jun-32
Mexico			1929 Q4	1932 Q4	Oct-29	Nov-32
Netherlands	1929 Q4	1933 Q2	1929 Q4	1932 Q3	Nov-29	Aug-32
New Zealand			1929 Q3	1933 Q1	Jul-29	Feb-33
Norway			1929 Q4	1931 Q3	Oct-29	Jul-31
Poland	1929 Q1	1933 Q2	1929 Q1	1932 Q3	Jan-29	Aug-32
Romania			1929 Q4	1933 Q1	Nov-29	Jan-33
South Africa	1930 Q1	1933 Q1	1929 Q2	1932 Q3	Jun-29	Jul-32
Spain			1929 Q3	1932 Q3	Sep-29	Aug-32
Sweden	1930 Q2	1932 Q3	1929 Q4	1932 Q3	Oct-29	Sep-32
Switzerland	1929 Q4	1933 Q1	1929 Q3	1932 Q4	Sep-29	Oct-32
United States	1929 Q3	1933 Q2	1929 Q2	1932 Q3	Jul-29	Sep-32
Yugoslavia			1930 Q2	1932 Q4	Apr-30	Nov-32









## B. Data Documentation for Individual Countries

In this section, we provide source sheets for each country. The abbreviation *STATI* refers to data from the Statistische Handbuch der Weltwirtschaft, the abbreviation *IAES* to those from the International Abstract of Economic Statistics. The sources for the annual data on industrial production and GDPs that we use for the calibration of the indices is summarised in the table below.

Table 3: Sources for Annual Data and Starting Year of Monthly Indices

Country	Starting	GDP Source	Industrial Production Source
Australia	1926	Bolt and van Zanden (2013)	League of Nations (1945, p. 140)
Austria	1925	Broadberry and Klein (2012)	Mitchell (2014)
Belgium	1925	Broadberry and Klein (2012)	Mitchell (2014)
Bulgaria	1927	Broadberry and Klein (2012)	Ivanov and Tooze (2007); shared by Ivanov and Morys
Canada	1925	Bolt and van Zanden (2013)	Mitchell (2014)
Chile	1927	Bolt and van Zanden (2013)	Mitchell (2014)
Czechoslovakia	1925	Broadberry and Klein (2012)	Mitchell (2014)
Denmark	1925	Broadberry and Klein (2012)	League of Nations (1945, p. 142)
Estonia	1925		League of Nations (1945, p. 143)
Finland	1925	Broadberry and Klein (2012)	Mitchell (2014)
France	1925	Broadberry and Klein (2012)	Statistisches Reichsam (1936, 1937)
Germany	1925	Broadberry and Klein (2012)	Mitchell (2014)
Great Britain	1925	Broadberry and Klein (2012)	Mitchell (2014)
Hungary	1925	Broadberry and Klein (2012)	League of Nations (1945, p. 143)
Italy	1925	Broadberry and Klein (2012)	Mitchell (2014)
Japan	1925	Bolt and van Zanden (2013)	League of Nations (1945, p. 140)
Latvia	1926		League of Nations (1945, p. 143)
Lithuania	1925		
Mexico	1927	Bolt and van Zanden (2013)	Mitchell (2014)
Netherlands	1925	Broadberry and Klein (2012)	Mitchell (2014)
New Zealand	1926	Bolt and van Zanden (2013)	League of Nations (1945, p. 141)
Norway	1925	Broadberry and Klein (2012)	Mitchell (2014)
Poland	1925		Mitchell (2014)
Romania	1928	Broadberry and Klein (2012)	Mitchell (2014)
South Africa	1925	Bolt and van Zanden (2013)	Archer (1989, p. 18); year 1931 linearly interpolated; fiscal years
Spain	1925	Broadberry and Klein (2012)	Mitchell (2014)
Sweden	1925	Broadberry and Klein (2012)	Mitchell (2014)
Switzerland	1925	Broadberry and Klein (2012)	League of Nations (1945, p. 142)
United States	1925	Bolt and van Zanden (2013)	Mitchell (2014)
Yugoslavia	1928	Broadberry and Klein (2012)	Stajić (1957)

## B.1. Australia

TABLE 4: DATA AUSTRALIA

Variable Name	Unit	Source	Principal Component Coefficients			
			Econ Activ-ity	Econ Activ-ity & Trade	Core Indica-tors	All
<i>Production, Transport and Employment</i>						
Wheat Stocks	1000 t	STATI	0.07	0.04	0.07	0.04
Unemployed Union Members - Total	1000s	STATI	-0.47	-0.35	-0.47	-0.35
Unemployed Union Members - Mining	%	STATI	-0.39	-0.31	-0.39	-0.31
Unemployed Union Members - Metall Industry	%	STATI	-0.44	-0.33	-0.44	-0.33
Unemployed Union Members - Textile Industry	%	STATI	-0.41	-0.34	-0.41	-0.34
Unemployed Union Members - Foodstuff	%	STATI	-0.34	-0.24	-0.34	-0.24
Unemployed Union Members - Construction	%	STATI	-0.38	-0.27	-0.38	-0.26
<i>Trade</i>						
Imports	1000 Pounds	STATI		0.33		0.33
Exports	1000 Pounds	STATI		-0.05		-0.05
Imports - Food and Beverages	1000 Pounds	STATI		0.29		0.28
Imports - Raw and Semi-processed Goods	1000 Pounds	STATI		0.27		0.27
Imports - Processed Goods	1000 Pounds	STATI		0.32		0.33
Exports - Food and Beverages	1000 Pounds	STATI		-0.07		-0.06
Exports- Raw and Semi-processed Goods	1000 Pounds	STATI		-0.01		-0.01
Exports - Wheat	1000 t	STATI		-0.13		-0.13
Exports - Budder	1000 t	STATI		-0.11		-0.11
Exports - Wool (non-washed)	1000 t	STATI		-0.03		-0.03
Exports - Wool (washed)	1000 t	STATI		0.01		0.01
Exports - Gold and Silver	1000 Pounds	STATI		0.13		0.13
<i>Prices</i>						
Wholesale Prices	Index (1911)	STATI				
Food Prices (Consumer)	Index (1923/27)	STATI				
<i>Money and Banking</i>						
Gold Stock (Central Bank)	m Pounds	STATI				0.04
Currency in Circulation (Central Bank)	m Pounds	STATI				0.06
Bank Rate (Central Bank)	%	STATI				-0.07
Number of Series			7	19	7	24
Variance Explained			62	35	62	30

## Comments

- All *Unemployed Union Members* series: We employ a cubic spline interpolation to convert mid-of-quarter data into monthly data. All other series are monthly.

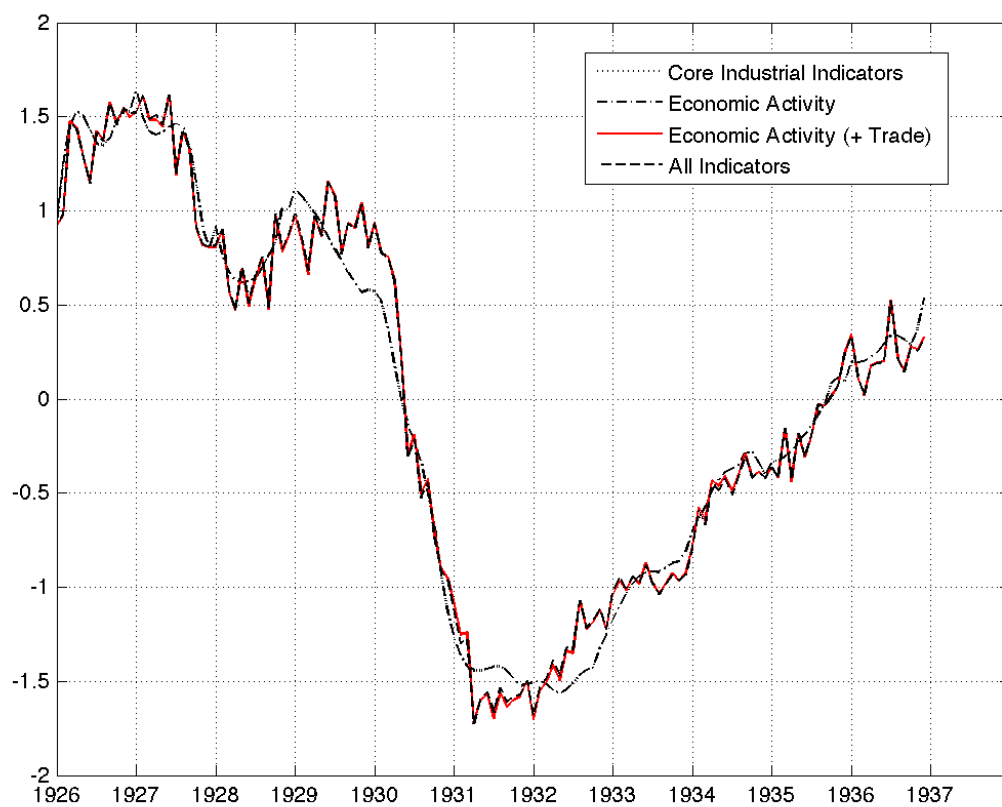


Figure 10: Indicators - Australia

## B.2. Austria

TABLE 5: DATA AUSTRIA

Variable Name	Unit	Source	Econ Activ- ity	Principal Component Coefficients Econ Activ- ity & Trade	Core Indica- tors	All
Production, Transport and Employment						
Industrial Production (Official)	Index(1923/1931=100)	STATI				
New Fatstock at Vienna Market St. Marx	1000s	IAES	-0.00	-0.02	0.01	-0.01
Beer Production	1000 hl Wort	IAES	0.13	0.13	0.14	0.12
Lignite - Production	1000t	STATI	0.12	0.10	0.14	0.09
Coal - Production	1000t	IAES	0.07	0.07	0.07	0.07
Iron Ore - Production	1000t	STATI	0.24	0.22	0.24	0.21
Paper - Production	1000t	STATI	0.15	0.14	0.16	0.14
Cardboard - Production	1000t	STATI	0.08	0.09	0.08	0.08
Electricity - Production	m kWh	STATI	0.20	0.19	0.21	0.19
Electricity in Vienna - Consumption	m kWh	IAES	0.16	0.15	0.17	0.15
Iron Industries - Orders	Index (100="normal")	STATI	0.19	0.17	0.21	0.17
Pig Iron - Production	Index (100="normal")	IAES	0.23	0.21	0.24	0.21
Steel - Production	Index (100="normal")	IAES	0.25	0.23	0.26	0.23
Semi Processed Metal Goods - Production	Index (100="normal")	IAES	0.27	0.25	0.28	0.24
Cotton Mills - Orders	Index (1923/31=100)	STATI	0.05	0.05	0.06	0.05
Capital Goods - Turnover	Index (1923/31=100)	STATI	0.29	0.28		0.27
Consumption Goods - Turnover	Index (1923/31=100)	STATI	0.09	0.10		0.10
Transported Goods - Railways	Waggons per day	STATI	0.28	0.27	0.30	0.27
Transported Goods - Railways	tonne-kilometres per day	STATI	0.12	0.12	0.15	0.12
Unemployed - Registered Job Seekers	1000s	STATI	-0.29	-0.28	-0.32	-0.29
Unemployment - Benefit Recipients	1000s	STATI	-0.29	-0.28	-0.32	-0.28
Unemployed in Vienna - Number	1000s	STATI	-0.25	-0.24	-0.29	-0.25
Unemployment - Job Hunting Advertisements	1000s	IAES	-0.22	-0.22	-0.24	-0.22
Unemployment - Jobs Offered	1000s	IAES	0.14	0.13	0.15	0.12
Unemployment - Filled Vacancies	1000s	IAES	0.15	0.14	0.16	0.14
Overseas Emigrants	Individuals	IAES	0.06	0.06	0.06	0.06
Firm Register (Vienna; Lower Austria; Burgenland) - New Firms	Number	IAES	-0.03	-0.02	-0.05	-0.03
Firm Register (Vienna; Lower Austria; Burgenland) - Failures	Number	IAES	-0.04	-0.04	-0.04	-0.04
Firm Register (Vienna; Lower Austria; Burgenland) - Firms Dis- solved	Number	IAES	0.04	0.04	0.02	0.03
Firm Register (Vienna; Lower Austria; Burgenland) - Composi- tions	Number	IAES	-0.05	-0.04	-0.05	-0.05
Bankruptcies	Number	STATI	-0.01	-0.02	-0.02	-0.01
Compositions - Total	Number	STATI	-0.16	-0.16	-0.17	-0.15
Trade						
Imports - Total	Mill. Schilling	STATI		0.22		0.22
Exports - Total	Mill. Schilling	STATI		0.20		0.20
Prices						
Wholesale Prices - Total	Index (1914(1-6)=100)	STATI				
Wholesale Prices - Food	Index (1914(1-6)=100)	STATI				
Wholesale Prices - Industrial Goods	Index (1914(1-6)=100)	STATI				
Money and Banking						
Central Bank - Currency	Mill. Schilling	STATI				0.12
Central Bank - Bank Rate	%	STATI				0.08
Central Bank - Deposits	Mill. Schilling	STATI				-0.05
Private Banks - Giro Turnover	Mill. Schilling	STATI	0.06	0.07		0.05
Private Banks - Postal Cheque Turnover	Mill. Schilling	STATI	0.10	0.12		0.11
Private Banks - Interest on 30 Day Call Money	%	STATI	0.06	0.04		0.06
New Capital in GmbH & stock companies	Mill. Schilling	STATI	-0.02	-0.01		-0.01
Stock Market - 35 Industrial Shares	Index (1923/32=100)	STATI	0.03	0.03		0.02
Securities - Turnover	Mill. Schilling	IAES	-0.13	-0.12		-0.12
Number of Series			37	39	29	46
Variance Explained	%		21	21	23	20

## Comments

- Total Exports & Imports: Quarterly values for 1925 have been converted to monthly values by dividing by 3.
- Unemployed - Registered Job Seekers: Values for January and February 1925 were missing and assumed to take those of March 1925.

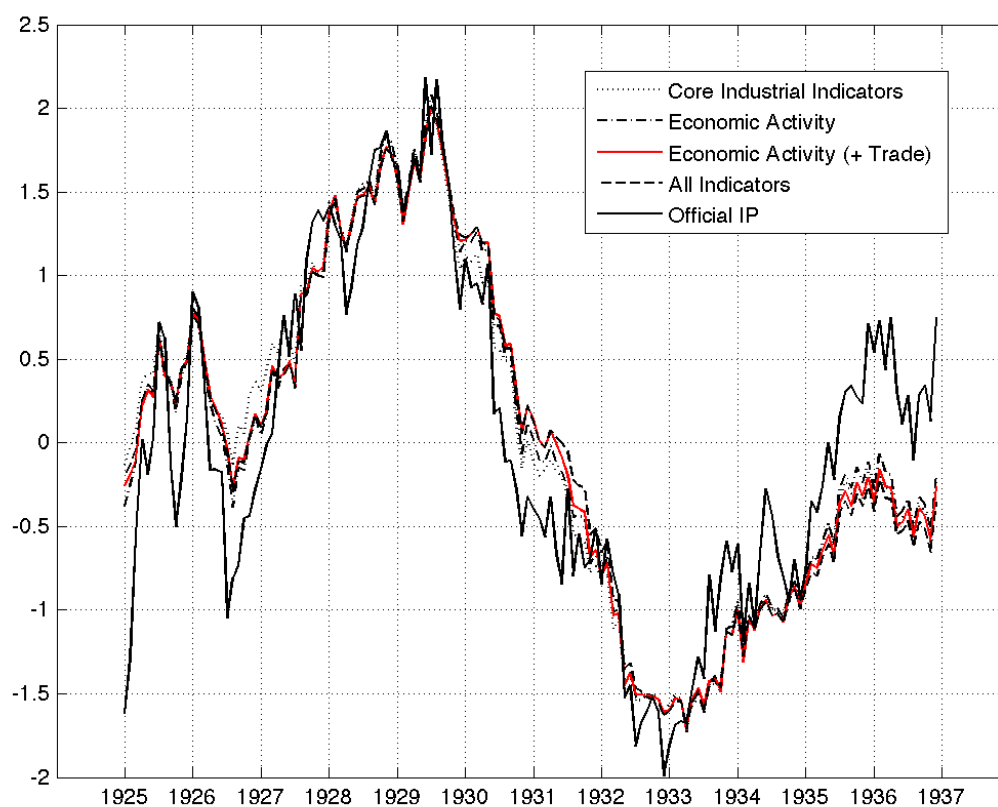


Figure 11: Indicators - Austria

### B.3. Belgium

TABLE 6: DATA BELGIUM

Variable Name	Unit	Source	Principal Component Coefficients			
			Econ Activ- ity	Econ Activ- ity & Trade	Core Indica- tors	All
Production, Transport and Employment						
Industrial Production (Official Index)	Index (1923/1925)	STATI				
Glass Industry - Production	Index (1923/1925)	STATI	0.09	0.10	0.11	0.09
Coal - Production	1000 tons	STATI	0.22	0.16	0.21	0.16
Coal Tips - Storage	1000 tons	STATI	-0.21	-0.09	-0.22	-0.10
Pig Iron - Production	1000 tons	STATI	0.30	0.15	0.32	0.15
Crude Steel - Production	1000 tons	STATI	0.29	0.15	0.31	0.14
Steel Mills - Production based on Ingot Steel	1000 tons	STATI	0.30	0.13	0.31	0.13
Steel Mills - Production based on Wrought Steel	1000 tons	STATI	0.26	0.08	0.26	0.08
Shipping - Entrances (Port of Antwerp)	m tons	IAES	0.20	0.15	0.20	0.15
Shipping - Entrances (Port of Ghent)	1000 tons	IAES	0.20	0.14	0.21	0.14
Railways - Total Receipts	m Francs	IAES	0.06	0.12		0.12
Unemployed - Full Time Workers	Individuals	STATI	-0.22	-0.16	-0.22	-0.17
Insured Unemployed - Full Time Workers	%	STATI	-0.24	-0.17	-0.23	-0.17
Unemployment - Days Lost by Insured Workers	Days	IAES	-0.25	-0.17	-0.25	-0.18
Unemployed - Part Time Workers	1000s	IAES	-0.22	-0.16	-0.23	-0.16
Proportion of Applicants to Job Offers	%	IAES	-0.19	-0.13	-0.18	-0.14
Textiles - Production	Index (1923/1925)	STATI	0.12	0.09	0.12	0.10
Wool - Conditioning (Verviers and Dison)	tons	STATI	0.03	0.03	0.04	0.04
Coke - Production	1000 tons	IAES	0.31	0.15	0.32	0.16
Furnaces in Blast (End of Month)	Number	IAES	0.27	0.11	0.28	0.11
Tax Receipts - Direct Taxation	m Francs	IAES	0.04	0.05		0.05
Trade						
Total Imports (Value)	m Francs	STATI		0.18		0.18
Total Exports (Value)	m Francs	STATI		0.21		0.20
Total Imports (Quantity)	m tons	IAES		0.20		0.19
Total Exports (Quantity)	m tons	IAES		0.21		0.20
Imports - Materials and Semi-manufactured Goods (Quantity)	m tons	IAES		0.21		0.20
Imports - Materials and Semi-manufactured Goods (Value)	b Francs	IAES		0.18		0.18
Exports - Manufactured Goods (Quantity)	m tons	IAES		0.19		0.18
Exports - Manufactured Goods (Value)	b Francs	IAES		0.19		0.18
Imports - Foodstuffs and Drinks	m Francs	STATI		0.06		0.06
Imports - Manufactured Goods	m Francs	STATI		0.17		0.17
Exports - Foodstuffs and Drinks	m Francs	STATI		0.05		0.04
Exports - Raw Materials and Semi-manufactured Goods	m Francs	STATI		0.15		0.14
Imports - Cotton	tons	STATI		0.10		0.10
Imports - Wool	tons	STATI		0.07		0.08
Imports - Coal	1000 tons	STATI		0.11		0.11
Imports - Coke	1000 tons	STATI		0.11		0.11
Imports - Iron Ore	1000 tons	STATI		0.16		0.16
Imports - Pig Iron	1000 tons	STATI		0.14		0.14
Imports - Machines	m Francs	STATI		0.13		0.13
Exports - Coal	1000 tons	STATI		0.07		0.07
Exports - Iron Bars	1000 tons	STATI		0.14		0.13
Exports - Raw Zinc	tons	STATI		-0.00		-0.01
Exports - Zinc Sheets	tons	STATI		0.14		0.14
Exports - Machines	m Francs	STATI		0.10		0.10
Exports - Textiles	m Francs	STATI		0.17		0.16
Exports - Cotton Fabrics	tons	STATI		0.15		0.14
Exports - Glassware	m Francs	STATI		0.15		0.14
Exports - Sheet Glass	tons	STATI		0.14		0.14
Exports - Chemical Products	m Francs	STATI		0.15		0.14
Tax Receipts - Customs and Excise	m Francs	IAES		0.05		0.05
Prices						
Wholesale Prices (All)	Index (April 1914)	STATI				
Wholesale Prices - Very Responsive Goods	Index (April 1914)	STATI				
Retail Prices	Index (April 1914)	STATI				
Consumer Prices	Index (1921)	STATI				
Foodstuff Prices	Index (1921)	STATI				
Money and Banking						
Central Bank - Currency in Circulation	m Francs	STATI				-0.04
Central Bank - Public Deposits	m Francs	STATI				0.07
Central Bank - Private Deposits	m Francs	STATI				0.06
Central Bank - Bank Rate	m Francs	STATI				-0.00
Market Rate	%	STATI	-0.13	-0.07		-0.07
Clearings - Brussels and Provinces	m Francs	STATI	-0.08	-0.02		-0.02
Giro Cheques - Turnover	m Francs	STATI	-0.01	0.04		0.03
General Savings Bank - Saving Deposits	m Francs	STATI				-0.14
General Savings Bank - New Deposits	m Francs	IAES				-0.05
General Savings Bank - Withdrawals	m Francs	IAES	-0.13	-0.08		-0.08
Registered Mortgages	m Francs	IAES	-0.10	-0.01		-0.02
Number of Series			25	55	18	67
Variance Explained	%		27	23	35	21



## Comments

- Wholesale Prices - Responsive Goods: Values for January and February 1931 are linearly interpolated.

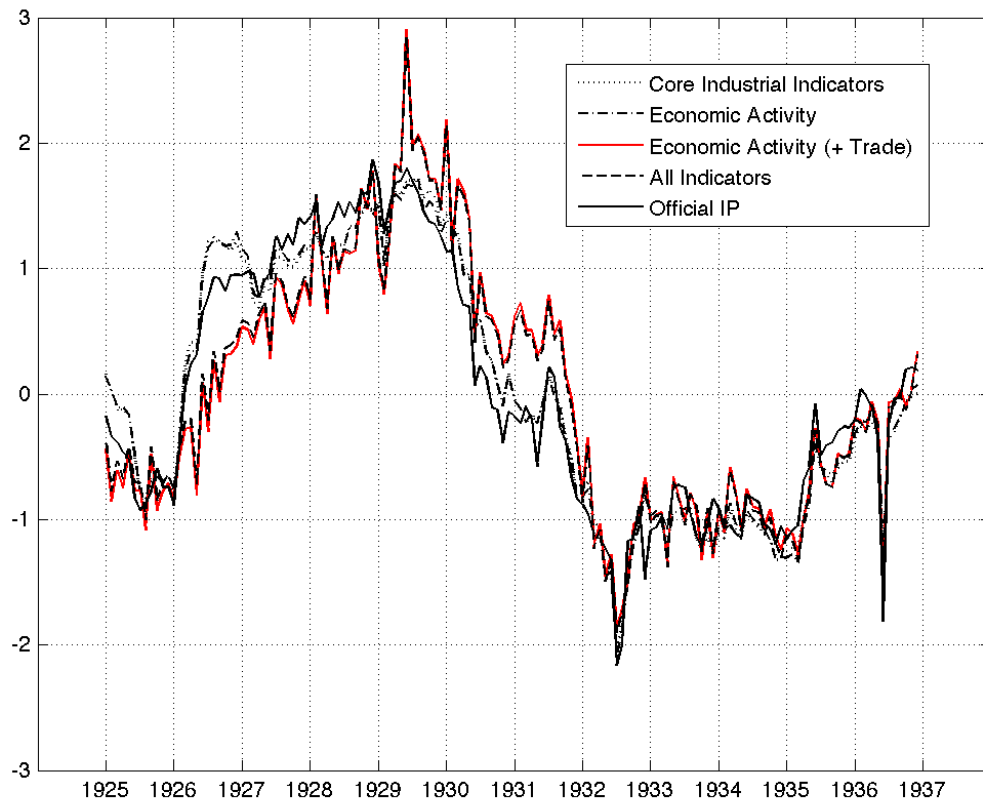


Figure 12: Indicators - Belgium

## B.4. Bulgaria

TABLE 7: DATA BULGARIA

Variable Name	Unit	Source	Econ Activ-ity	Princpal Component Coefficients Econ Activ-ity & Trade	Core Indica-tors	All
Production, Transport and Employment						
Coal Production (State-owned Mines)	tons	BM	0.33	0.27		0.15
Employed Workers	1000s	STATI	0.07	0.10		0.02
Coal Production (private-owned Mines)	tons	BM	0.29	0.34		0.26
Marriages	Number	BM	-0.01	-0.00		0.07
Government Income - Total	1000 Lev	BM	0.24	0.16		0.07
Government Income - Direct Taxes	1000 Lev	BM	0.30	0.22		0.17
Government Income - Indirect Taxes	1000 Lev	BM	0.51	0.48		0.30
Railway Index	Index(1932/1934)	STATI	0.45	0.42		0.23
Incoming Ships	1000 NRT	STATI	0.02	0.02		-0.06
Trade						
Total Imports	m Lev	STATI		0.35		0.35
Total Exports	m Lev	STATI		0.18		0.08
Prices						
Wholesale Prices	Index(1932/1934)	STATI				
Wholesale Prices - Foodstuff (no meat)	Index(1932/34)	STATI				
Wholesale Prices - Foodstuff (meat only)	Index(1932/34)	STATI				
Consumer Prices	Index(1933/1934)	STATI				
Consumer Prices - Foodstuff	Index(1933/1934)	STATI				
Money and Banking						
Bills of Exchange and Advances (Central Bank)	m Lev	STATI				0.16
Advances to the Government (Central Bank)	m Lev	STATI				0.05
Currency in Circulation (Central Bank)	m Lev	STATI				0.36
Deposits (Central Bank)	m Lev	STATI				0.40
Bank Rate (Central Bank)	%	STATI				-0.34
Protested Bills of Exchange (Central Bank)	m Lev	STATI	-0.44	-0.41		-0.39
Clearings	m Lev	STATI	-0.02	-0.00		0.04
Number of Series			11	13	6	23
Variance Explained	%		19	18		18

## Comments

- *Railway Index* : Two series have been linked via re-basing.
- *Price Series*: Two series have been linked via re-basing.
- BM is the abbreviation for the Bulgarian *Bulletin mensuel* by the *Direction Général de la Statistique*, various issues.
- *Coal Production (State-owned Mines)*: Excludes mines other than the one in Pernik from 1934 on. However, those mines produced negligible amounts.

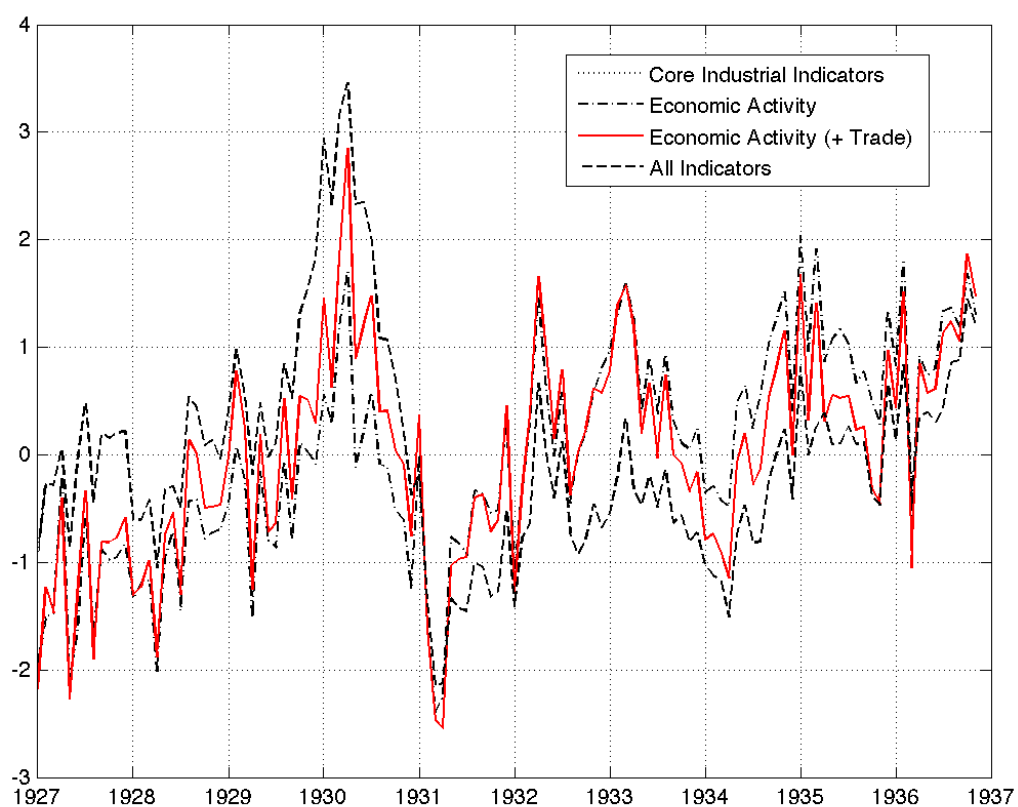


Figure 13: Indicators - Bulgaria

## B.5. Chile

TABLE 8: DATA CHILE

Variable Name	Unit	Source	Econ Activ- ity	Principal Component Coefficients Econ Activ- ity & Trade	Core Indica- tors	All
<i>Production, Transport and Employment</i>						
Mining - Production Index	Index (1927/29)	STATI	0.23	0.24	0.29	0.21
Mining - Employed in Saltpetre Industry	1000	STATI	0.30	0.26	0.34	0.16
Mining - Employed in Cooper Industry	1000	STATI	0.27	0.28	0.31	0.28
Cooper Production	1000 t	STATI	0.11	0.15	0.16	0.19
Coal Production	1000 t	STATI	0.31	0.28	0.38	0.20
Production - Electric Energy	Index(1927/1929)	STATI	0.33	0.31	0.37	0.27
Production - Tissues	Index(1927/1929)	STATI	0.30	0.25	0.34	0.17
Production - Shoes	Index(1927/1929)	STATI	0.35	0.31	0.42	0.20
Production - Glas Manufactures	Index(1927/1929)	STATI	0.23	0.20	0.29	0.10
Production - Paper	Index(1927/1929)	STATI	0.14	0.08	0.15	-0.03
Retail Sales (Santiago)	Index (1932/1934)	STATI	0.22	0.21		0.26
<i>Trade</i>						
Imports	m Pesos	STATI		0.35		0.35
Exports	m Pesos	STATI		0.19		0.20
Exports - Wool (washed)	t	STATI		-0.04		0.00
Exports - Cooper	1000 t	STATI		0.03		0.13
<i>Prices</i>						
Wholesale Prices	Index (1913)	STATI				
<i>Money and Banking</i>						
Clearings	m Pesos	STATI	0.37	0.34		0.33
Bank Rate (Central Bank)	%	STATI				0.02
Commercial Banks - Bills of Exchanges and Advances	m Pesos	STATI				0.25
Commercial Banks - Deposits	m Pesos	STATI				0.24
Savings	m Pesos	STATI				0.32
Stock Market Index	Index (1927)	STATI	0.31	0.28		0.21
Number of Series			13	17	10	22
Variance Explained	%		33	29	34	27

## Comments

- *Production Series*: Values for 1927-29 had to be based on 1927-29 to make values comparable with later values.
- *Workers in Saltpetre Industry*: Value for February 1934 was missing and linearly interpolated,
- *Retail Sales (Santiago)*: Two indices were linked via re-basing. One is based on 20 companies and their branches, the other on 18.
- *Exports Wool*: For January–March 1929, there was only quarterly data available. Hence monthly values have been assumed to be 1/3 of the quarterly value for each month.
- *Commercial Banks* series: Series from the two editions of the STATI differ marginally for 1932–1934. The ones taken from 1937 edition adjust for the value of foreign deposits.
- *Wholesale Prices*: 1927 based on consumer prices from the STATI, which are – as the wholesale prices – based on 1913. This is an imperfect solution, but no wholesale prices have been calculated for the period prior to 1928 at any frequency.

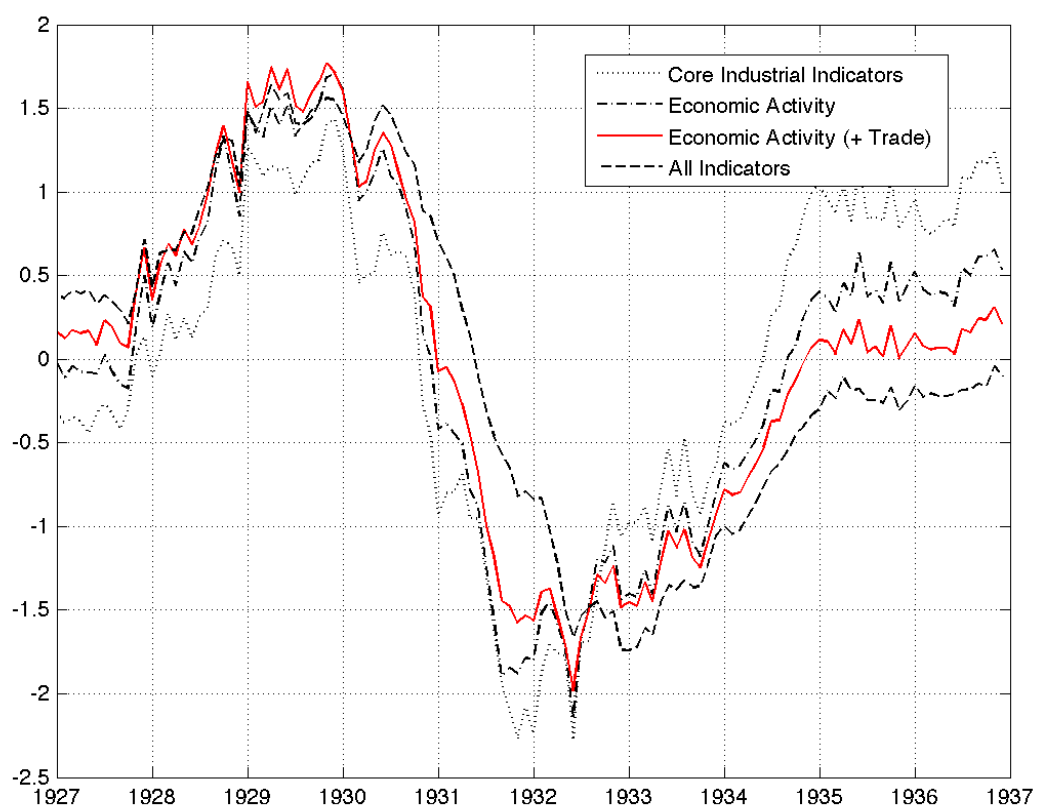


Figure 14: Indicators - Chile

## B.6. Canada

TABLE 9: DATA CANADA

Variable Name	Unit	Source	Econ Activ- ity	Econ Activ- ity & Trade	Core Indica- tors	All
Production, Transport and Employment						
Production (Official)	Index (1926)	STATI				
Cereal - Sales	Index (1926)	STATI	-0.03	-0.01	-0.05	-0.02
Cattle - Sales	Index (1926)	STATI	-0.00	0.01	-0.00	0.00
Forestry - Production	Index (1926)	STATI	0.23	0.19	0.25	0.19
Mining - Production	Index (1926)	STATI	0.14	0.12	0.15	0.12
Other Industries - Production	Index (1926)	STATI	0.23	0.21	0.25	0.21
Construction	Index (1926)	STATI	0.15	0.12	0.17	0.11
Employment - General	Index (1926)	STATI	0.24	0.20	0.29	0.20
Industrial Employment - Total	Index (1926)	STATI	0.26	0.22	0.31	0.22
Industrial Employment - Steel and Iron Industries	Index (1926)	STATI	0.25	0.21	0.29	0.21
Industrial Employment - Car Manufacturing	Index (1926)	STATI	0.17	0.15	0.19	0.14
Industrial Employment - Timber Industry	Index (1926)	STATI	0.24	0.20	0.28	0.20
Industrial Employment - Cellulose Industry	Index (1926)	STATI	0.15	0.12	0.19	0.13
Industrial Employment - Textile Industry	Index (1926)	STATI	0.19	0.16	0.22	0.16
Industrial Employment - Leather Industry	Index (1926)	STATI	0.01	-0.00	0.04	-0.00
Coal Production	1000 tons	STATI	0.12	0.12	0.15	0.11
Pig Iron - Production	1000 tons	STATI	0.19	0.16	0.21	0.15
Crude Steel - Production	1000 tons	STATI	0.21	0.17	0.22	0.16
Cars Manufactured	Number	STATI	0.13	0.12	0.15	0.12
Lorries Manufactured	Number	STATI	0.15	0.14	0.17	0.13
Paper for Newspaper - Production	1000 tons per day	STATI	0.24	0.20	0.26	0.20
Electricity - Production	m kWh	STATI	0.23	0.19	0.25	0.19
Approved Building Contracts	m \$	STATI	0.12	0.09	0.13	0.09
Railways - Transported Goods (Waggons)	Index (1926)	STATI	0.16	0.13	0.17	0.13
Bankruptcies (Cases)	Number	STATI	-0.10	-0.08	-0.09	-0.07
Bankruptcies (Volume)	m \$	STATI	-0.10	-0.08		-0.08
Trade						
Imports - Total	m \$	STATI		0.22		0.22
Exports - Total	m \$	STATI		0.15		0.14
Imports - Foodstuff and Beverages	m \$	STATI		0.10		0.10
Imports - Raw Materials and semi-processed Goods	m \$	STATI		0.18		0.17
Imports - Fully-manufactured Goods	m \$	STATI		0.21		0.20
Exports - Foodstuff and Beverages	m \$	STATI		0.05		0.04
Exports - Raw Materials and semi-processed Goods	m \$	STATI		0.13		0.13
Exports - Fully-manufactured Goods	m \$	STATI		0.19		0.18
Exports - Agricultural Goods	m \$	STATI		0.05		0.04
Exports - Non-Agricultural Goods	m \$	STATI		0.19		0.19
Exports - Wheat	1000 tons	STATI		0.01		-0.00
Exports - Wheat flour	1000 tons	STATI		0.07		0.06
Exports - Paper for Newspaper	1000 tons	STATI		0.17		0.17
Prices						
Wholesale Prices - General	Index (1926)	STATI				
Wholesale Prices - Raw Materials	Index (1926)	STATI				
Wholesale Prices - Fully-Manufactured Goods	Index (1926)	STATI				
Wholesale Prices - Foodstuffs (excluding meat)	Index (1926)	STATI				
Wholesale Prices - Meat and Related Products	Index (1926)	STATI				
Wholesale Prices - Non-ferrous Metals	Index (1926)	STATI				
Wholesale Prices - Non-ferrous Minerals	Index (1926)	STATI				
Wholesale Prices - Iron and Iron Products	Index (1926)	STATI				
Wholesale Prices - Timber and Paper	Index (1926)	STATI				
Wholesale Prices - Textiles	Index (1926)	STATI				
Wholesale Prices - Wheat	cts per bushel	STATI				
Consumer Prices - General	Index (1926)	STATI				
Money and Banking						
Chartered Banks - Holding of Stocks	m \$	STATI				-0.12
Chartered Banks - Business Loans	m \$	STATI	-0.05	-0.04		-0.04
Chartered Banks - Short Term Deposits	m \$	STATI	-0.01	-0.00		-0.02
Chartered Banks - Long Term Deposits	m \$	STATI				-0.15
Currency in Circulation	m \$	STATI				0.09
Called Cheques	m \$	STATI	0.15	0.13		0.12
Clearings	m \$	STATI	0.15	0.13		0.11
Real Interest Bond from the Province Ontario	%	STATI				-0.01
Stock Market Index	Index (1926)	STATI	0.25	0.20		0.20
Industrial Shares	Index (1926)	STATI	0.24	0.19		0.19
Insurance Shares	Index (1926)	STATI	0.19	0.16		0.15
Bank Shares	Index (1926)	STATI	0.09	0.08		0.07
Stocks - Turnover	Index (1926)	STATI	0.10	0.08		0.08
Number of Series			34	47	24	64
Variance Explained	%		31	31	37	30

## Comments

- *Production (Official), Cereal - Sales, Cattle - Sales, Forestry, Mining, Other Industries, Construction, Railways*: Seasonal adjustment methodology has changed in 1936.
- *Pig Iron - Production*: Values for March - May 1933 were missing and assumed to be 0.
- *Clearings*: Includes 32 cities from 1931 on; before only 29–31.

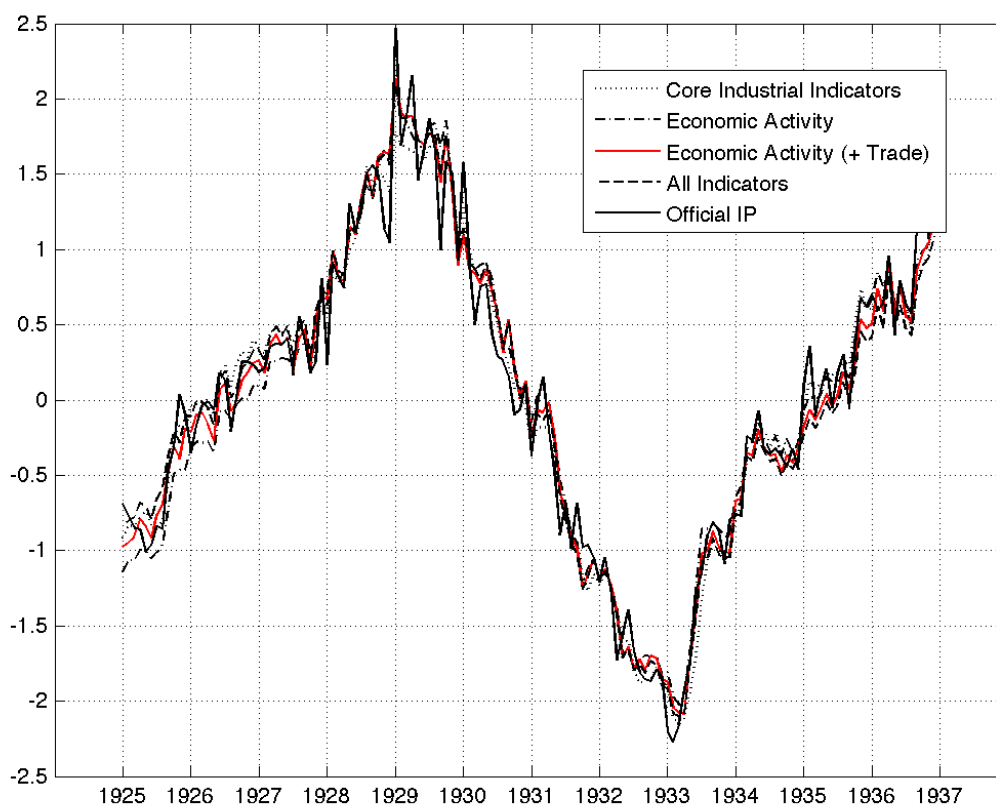


Figure 15: Indicators - Canada

## B.7. Czechoslovakia

TABLE 10: DATA CZECHOSLOVAKIA

Variable Name	Unit	Source	Principal Component Coefficients			
			Econ Activ- ity	Econ Activ- ity & Trade	Core Indica- tors	All
<i>Production, Transport and Employment</i>						
Industrial Production (Official)	Index (1929)	STATI				
Coal - Production	1000 tons	STATI	0.37	0.10	0.39	0.11
Lignite - Production	1000 tons	STATI	0.28	0.12	0.29	0.12
Coke - Production	1000 tons	STATI	0.37	0.23	0.37	0.23
Railways - Transported Goods	1000 tons	STATI	0.40	0.23	0.43	0.23
Railways - National Carloadings	1000s	IAES	0.32	0.18	0.36	0.17
Railways - International Carloadings	1000s	IAES	0.38	0.13	0.39	0.14
Unemployed	Number	STATI	-0.27	-0.22	-0.31	-0.21
Bankruptcies	Number	STATI	-0.12	-0.11	-0.14	-0.10
Compositions	Number	STATI	-0.23	-0.12	-0.22	-0.13
<i>Trade</i>						
Imports - Total	m K	STATI		0.25		0.25
Exports - Total	m K	STATI		0.29		0.28
Imports - Foodstuff	m K	STATI		0.10		0.09
Imports - Raw Materials	m K	STATI		0.24		0.23
Imports - Fully-manufactured Goods	m K	STATI		0.24		0.23
Exports - Foodstuff	m K	STATI		0.03		0.03
Exports - Raw Materials	m K	STATI		0.17		0.17
Exports - Fully-manufactured Goods	m K	STATI		0.30		0.28
Imports - Cotton	tons	STATI		0.14		0.13
Imports-Wool	tons	STATI		0.14		0.13
Imports - Machines	m K	STATI		0.18		0.18
Imports - Iron Bars	1000 tons	STATI		0.15		0.14
Exports - Cotton Fabrics	m K	STATI		0.27		0.25
Exports - Wool Fabrics	m K	STATI		0.27		0.26
Export - Leather and Leather Goods	m K	STATI		0.18		0.17
Exports - Glas	m K	STATI		0.22		0.21
<i>Prices</i>						
Wholesale Prices - All	Index (1 Jul, 1914)	STATI				
Wholesale Prices - Foodstuff	Index (1 Jul, 1914)	STATI				
Consumer Prices - All	Index (1 Jul, 1914)	STATI				
Consumer Prices - Food	Index (1 Jul, 1914)	STATI				
Consumer Prices - Clothes	Index (1 Jul, 1914)	STATI				
<i>Money and Banking</i>						
Central Bank - Bills of Exchange and Advances	m K	STATI				0.07
Central Bank - Currency in Circulation	m K	STATI				0.09
Central Bank - Deposits	m K	STATI				-0.07
Clearings	m K	STATI	-0.12	-0.07		-0.07
Clearings - Giro Cheques (Saving Banks)	m K	STATI	-0.09	-0.04		-0.05
Central Bank - Bank Rate	%	STATI				0.02
Saving Banks - Deposits	m K	STATI				-0.19
Industrial Stocks	Index (3 January 1927)	STATI	0.17	0.14		0.14
Securities Market Index	Index (3 January 1927)	STATI	-0.23	-0.02		-0.04
Number of Series			13	29	9	40
Variance Explained	%		28	29	38	26

## Comments

- *Consumer Prices - All*: There is a new basket from 1930 on, but no apparent change in the series.
- *Central Bank - Currency in Circulation*: Excludes 10 and 20 Crowns bills from 1932 on.
- *Stock and Security Market Indices*: Until 1926 beginning of the month, thereafter end of the week averages.



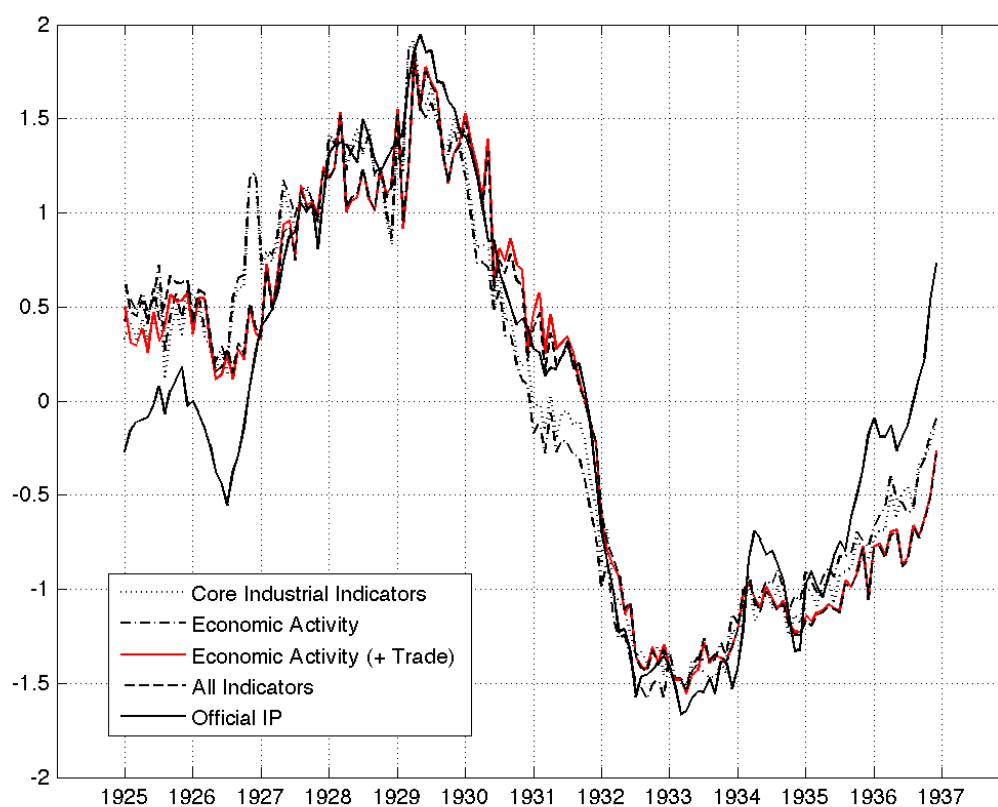


Figure 16: Indicators - Czechoslovakia

## B.8. Denmark

TABLE 11: DATA DENMARK

Variable Name	Unit	Source	Econ Activ- ity	Principal Component Coefficients	Econ Activ- ity & Trade	Core Indica- tors	All
Production, Transport and Employment							
Pigs Slaughtered	1000s	STATI	-0.18	-0.19	0.22	0.03	
Shipbuilding - construction started	1000 Register Tons	STATI	0.28	0.22	-0.33	-0.14	
Shipbuilding - construction finished	1000 Register Tons	STATI	0.34	0.27	-0.36	-0.23	
Shipping - goods incoming	1000 tons	STATI	0.35	0.27	-0.46	-0.21	
Shipping - goods outgoing	1000 tons	STATI	0.32	0.24	-0.44	-0.16	
Sea Freight Rates	Index (1932/1934)	STATI	-0.16	-0.10		0.05	
Bankruptcies	Number	STATI	-0.23	-0.21	0.30	0.04	
Unemployed Union Members	%	STATI	-0.40	-0.38	0.46	0.24	
Trade							
Imports	m Crowns	STATI		-0.02		-0.01	
Exports	m Crowns	STATI		0.18		0.19	
Imports - Wheat	1000t	STATI		-0.04		-0.03	
Imports - Corn	1000t	STATI		-0.19		-0.12	
Imports - Oil Cakes	1000t	STATI		0.11		0.05	
Imports - Textiles	m Crowns	STATI		0.31		0.23	
Exports - Cattle	1000s	STATI		-0.16		-0.16	
Exports - Butter	1000t	STATI		0.12		0.09	
Exports - Eggs	m	STATI		-0.05		-0.05	
Exports - Bacon	1000t	STATI		-0.18		-0.09	
Prices							
Wholesale Prices	Index (1932/1934)	STATI					
Money and Banking							
Gold Stock (Central Bank)	m Crowns	STATI				0.30	
Foreign Exchange (Central Bank)	m Crowns	STATI				0.14	
Deposits (Central Bank)	m Crowns	STATI				-0.02	
Currency in Circulation (Central Bank)	m Crowns	STATI				0.20	
Bank Rate (Central Bank)	%	STATI				-0.22	
Bills of Exchange (Commercial Banks)	m Crowns	STATI				0.18	
Advances (Commercial Banks)	m Crowns	STATI				0.23	
Deposits (Commercial Banks)	m Crowns	STATI				0.31	
Stocks	Index (1/7/1914=100)	STATI	0.45	0.42		0.37	
Bonds	Index (1/7/1914=100)	STATI	0.32	0.30		0.33	
Number of Series			10	20	7	29	
Variance Explained	%		33	21	36	21	

## Comments

- *Unemployed Union Members*: Values for April and May 1925 have been linearly interpolated.

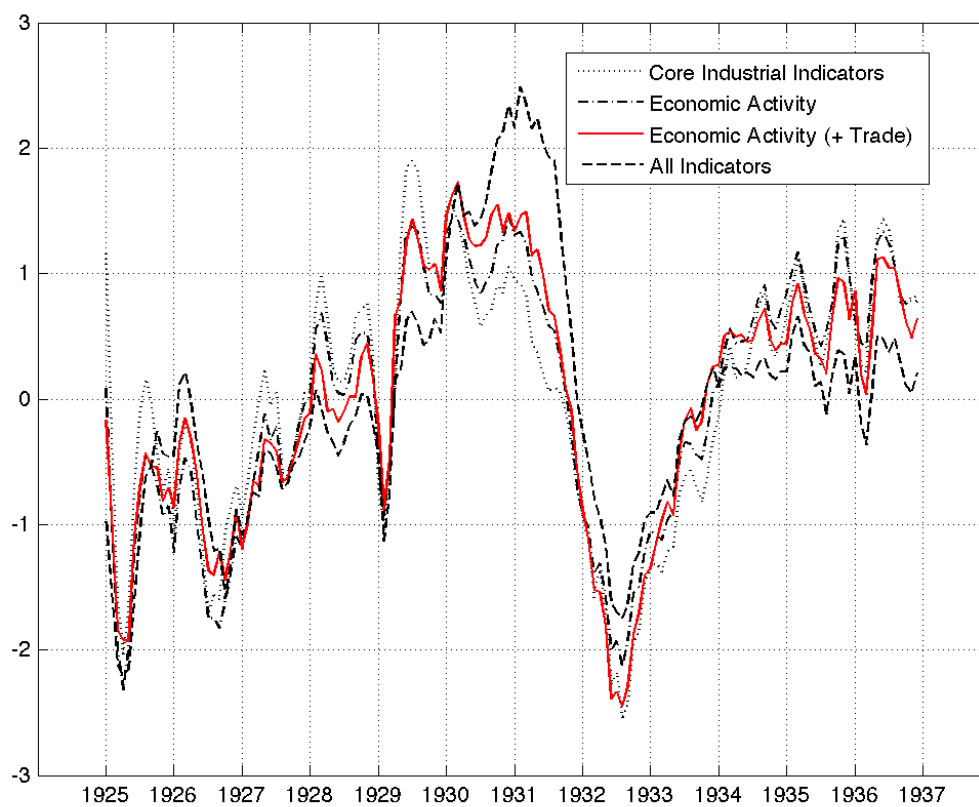


Figure 17: Indicators - Denmark

## B.9. Estonia

TABLE 12: DATA ESTONIA

Variable Name	Unit	Source	Principal Component Coefficients			
			Econ Activ-ity	Econ Activ-ity & Trade	Core Indica-tors	All
<i>Production, Transport and Employment</i>						
Employment (Mining and Industry)	Number	STATI	0.47	0.30		0.25
Transported Goods (Railway)	1000 tons	STATI	0.41	0.28		0.25
Transported Goods (Shipping - Incoming)	1000 NRT	STATI	0.34	0.31		0.22
Unemployed	Number	STATI	-0.52	-0.38		-0.34
<i>Trade</i>						
Imports	1000 Crowns	STATI		0.37		0.32
Exports	1000 Crowns	STATI		0.43		0.36
Exports - Flax	tons	STATI		0.07		0.05
Exports - Butter	tons	STATI		0.24		0.20
Exports - Eggs	1000s	STATI		0.14		0.09
Exports - Sawn Wood	1000 cbm	STATI		0.06		0.08
Exports - Paper	tons	STATI		0.23		0.13
<i>Prices</i>						
Wholesale Prices	Index (1913)	STATI				
Consumer Prices (in Reval)	Index (1913)	STATI				
Consumer Prices - Foodstuff (in Reval)	Index (1913)	STATI				
<i>Money and Banking</i>						
Gold Stock (Central Bank)	m Crowns	STATI				0.07
Foreign Exchange (Central Bank)	m Crowns	STATI				0.27
Bills of Exchange and Advances (Central Bank)	m Crowns	STATI				-0.21
Currency in Circulation (Central Bank)	m Crowns	STATI				0.14
Clearings	m Crowns	STATI	0.34	0.31		0.27
Bank Rate (Central Bank)	%	STATI	0.21	0.15		0.09
Private Banking - Bills of Exchange and Advances	m Crowns	STATI				0.29
Private Banking - Deposits	m Crowns	STATI				0.31
Protested Bills of Exchange	1000 Crowns	STATI	0.24	0.12		0.06
Number of Series			7	14	4	23
Variance Explained	%		33	26		22

## Comments

- *Flax Exports*: Values for July 1928 and October 1930 were missing and linearly interpolated.
- *Employment (Mining and Industry)*: Values for June - December 1926 have been linearly interpolated.

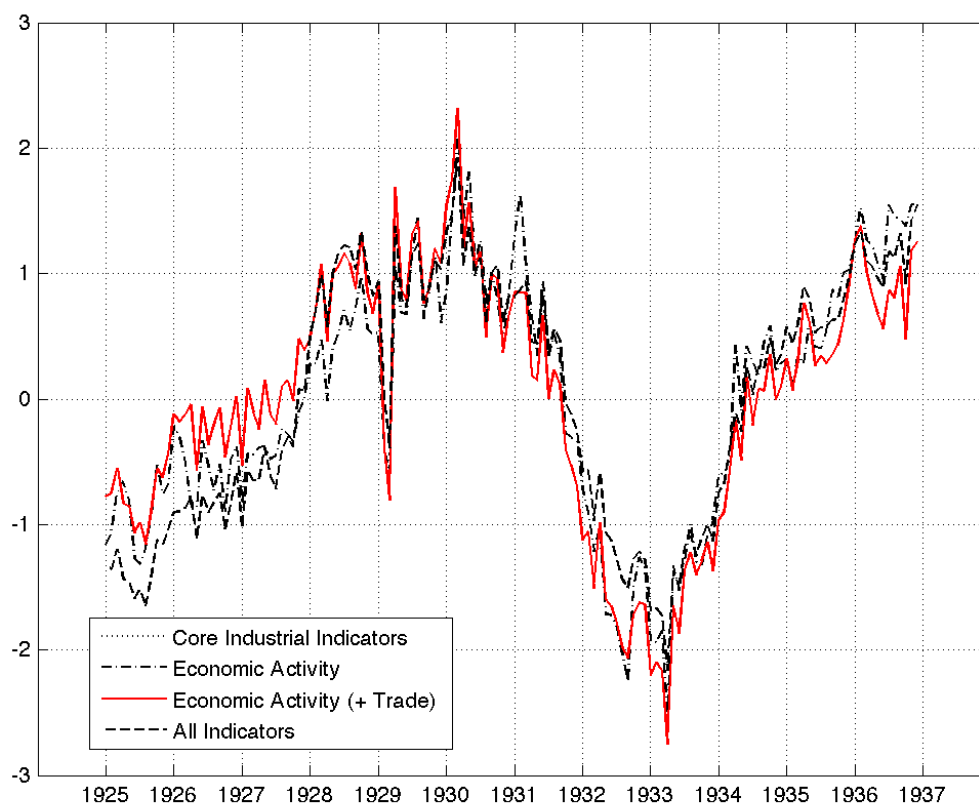


Figure 18: Indicators - Estonia

## B.10. Finland

TABLE 13: DATA FINLAND

Variable Name	Unit	Source	Principal Component Coefficients			
			Econ Activ- ity	Econ Activ- ity & Trade	Core Indica- tors	All
<i>Production, Transport and Employment</i>						
Unemployment	Index (1932)	STATI	-0.35	-0.25		-0.25
Wholesale Turnover	m Fmk	STATI	0.32	0.30		0.13
Transported Goods (Railway)	1000t	STATI	0.37	0.36		0.19
Transported Goods (Shipping)	1000 NRT	STATI	0.23	0.30		0.13
Bankruptcies - Total	Cases	STATI	-0.28	-0.14		-0.09
Bankruptcies - Agriculture	Cases	STATI	-0.34	-0.21		-0.10
<i>Trade</i>						
Imports	m Fmk	STATI		0.36		0.15
Exports	m Fmk	STATI		0.22		0.01
Imports Stone Coal and Coke	1000t	STATI		0.14		0.06
Imports Cotton	t	STATI		0.17		0.12
Exports Butter	t	STATI		-0.05		-0.04
Exports Wood	1000 cbm	STATI		0.18		0.02
Exports Cellulose	1000t	STATI		0.05		-0.15
Exports Wood Pulp	1000t	STATI		0.11		-0.00
Exports Paper	1000t	STATI		0.19		0.04
<i>Prices</i>						
Wholesale Prices	Index (1926)	STATI				
Consumer Prices	Index (1914)	STATI				
<i>Money and Banking</i>						
Gold Stock (Central Bank)	m Fmk	STATI				-0.05
Foreign Exchange (Central Bank)	m Fmk	STATI				0.30
Bills of Exchange and Advances (Central Bank)	m Fmk	STATI				-0.25
Currency in Circulation (Central Bank)	m Fmk	STATI				0.17
Deposits (Central Bank)	m Fmk	STATI				0.31
Clearings - Foreign and Domestic Stocks	m Fmk	STATI	0.40	0.34		0.33
Bank Rate (Central Bank)	%	STATI				-0.30
Private Banking - Bills of Exchange and Advances	m Fmk	STATI				0.10
Private Banking - Deposits	m Fmk	STATI				0.33
Saving Institutions - Savings	m Fmk	STATI				0.18
New Life Insurances	m Fmk	STATI	0.16	0.13		0.15
Stocks	Index	STATI	0.35	0.26		0.33
Stock Turnover	m Fmk	STATI	0.12	0.10		0.12
Protested Bills of Exchange	m Fmk	STATI	-0.26	-0.18		-0.08
Number of Series			11	20	5	31
Variance Explained	%		29	19		18

## Comments

- Gold Stock: Converted first twelve values to the 1926 parity.
- We link two unemployment series by rebasing them to a common year. Last two values for the later series are assumed to take the value of October 1936.

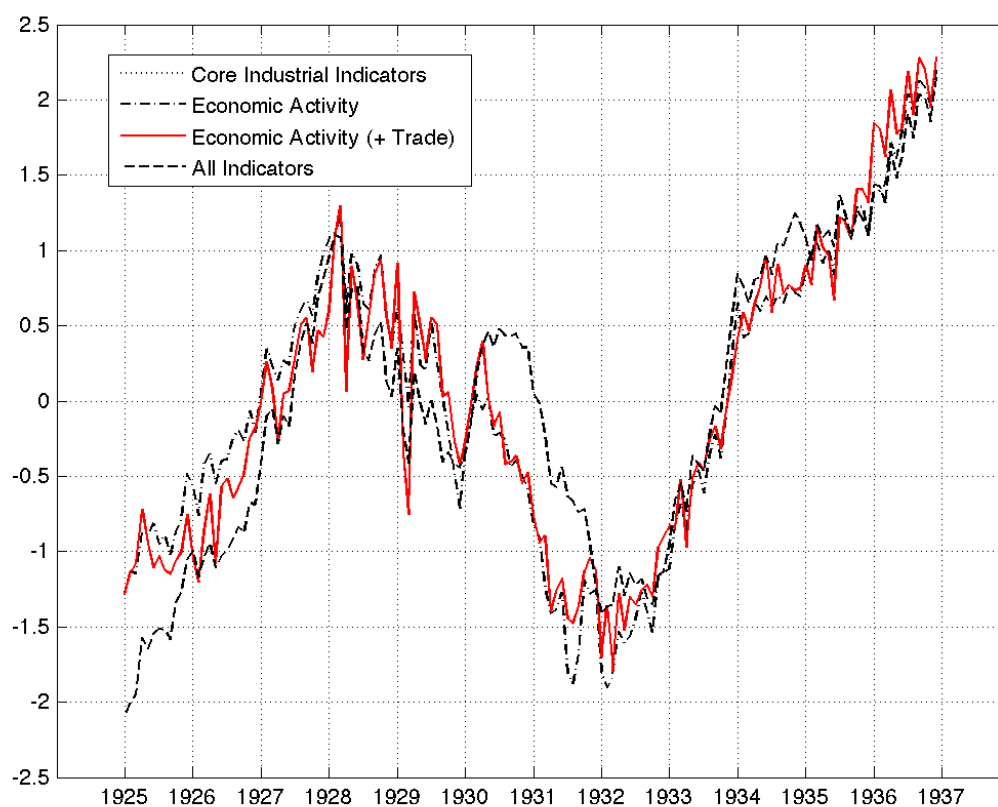


Figure 19: Indicators - Finland

## B.11. France

TABLE 14: DATA FRANCE

Variable Name	Unit	Source	Principal Component Coefficients			
			Econ Activ- ity	Econ Activ- ity & Trade	Core Indica- tors	All
Production, Transport and Employment						
Industrial Production Official	Index (1913)	STATI				
Mining - Production	Index (1913)	STATI	0.17	0.16	0.18	0.15
Iron and Steel - Production	Index (1913)	STATI	0.23	0.21	0.24	0.20
Engineering - Production	Index (1913)	STATI	0.21	0.19	0.22	0.18
Cars - Production	Index (1913)	STATI	0.19	0.17	0.20	0.16
Rubber - Production	Index (1913)	STATI	0.19	0.17	0.20	0.16
Paper - Production	Index (1913)	STATI	0.14	0.14	0.15	0.13
Leather - Production	Index (1913)	STATI	0.14	0.11	0.15	0.11
Textiles (all) - Production	Index (1913)	STATI	0.19	0.16	0.20	0.15
Cotton - Production	Index (1913)	STATI	0.21	0.16	0.21	0.15
Woollen - Production	Index (1913)	STATI	0.18	0.15	0.19	0.14
Silk - Production	Index (1913)	STATI	0.12	0.10	0.13	0.10
Construction - Production	Index (1913)	STATI	0.14	0.14	0.14	0.13
Coal and Lignite - Production	1000t	STATI	0.14	0.14	0.15	0.13
Iron Ore - Production	1000t	STATI	0.17	0.16	0.18	0.15
Potassium - Production	1000t	STATI	0.11	0.12	0.12	0.11
Pig iron - Production	1000t	STATI	0.22	0.20	0.24	0.19
Raw steel - Production	1000t	STATI	0.23	0.20	0.24	0.19
Cotton Mills - Spindles Employed	1000s	STATI	0.15	0.13	0.16	0.12
Cotton Mills - Production per Spindle	kg	STATI	0.20	0.16	0.20	0.15
Cotton Mills - Stocks per Spindle	kg	STATI	-0.16	-0.15	-0.17	-0.14
Cotton Mills - Orders per Spindle	kg	STATI	0.19	0.16	0.19	0.15
Weaving Mills - Looms Employed	1000s	STATI	0.16	0.13	0.18	0.12
Weaving Mills - Production per Loom	piece of 100m per loom	STATI	0.19	0.15	0.20	0.14
Weaving Mills - Stocks per Loom	piece of 100m per loom	STATI	-0.16	-0.13	-0.16	-0.12
Weaving Mills - Orders per Loom	piece of 100m per loom	STATI	0.16	0.12	0.16	0.12
Wool Conditioning	1000t	STATI	0.10	0.08	0.10	0.07
Silk Conditioning	t	STATI	0.11	0.09	0.11	0.09
Transportation - Waggon (Railway)	1000s	STATI	0.18	0.18	0.19	0.17
Transportation - Shipped Goods	1000t	STATI	0.09	0.09	0.10	0.08
Unmatched Job Requests	1000s	STATI	-0.17	-0.16	-0.19	-0.15
Unemployed on Benefits	1000 Individuals	STATI	-0.17	-0.15	-0.18	-0.14
Trade						
Imports - Total	m Franc	STATI		0.14		0.13
Exports - Total	m Franc	STATI		0.11		0.10
Imports - Foodstuff	m Franc	STATI		-0.05		-0.05
Imports - Raw Materials	m Franc	STATI		0.16		0.15
Imports - Fully Manufactured Goods	m Franc	STATI		0.15		0.14
Exports - Foodstuff	m Franc	STATI		0.04		0.04
Exports - Raw Materials	m Franc	STATI		0.05		0.04
Exports - Fully Manufactured Goods	m Franc	STATI		0.13		0.12
Imports - Raw Cotton	1000 t	STATI		0.10		0.10
Imports - Raw Wool	1000 t	STATI		0.06		0.05
Imports - Coal & Coke	1000 t	STATI		0.09		0.09
Imports - Cooper	1000 t	STATI		0.12		0.12
Imports - Machines	m Franc	STATI		0.15		0.15
Exports - Iron Goods	1000 t	STATI		-0.01		-0.01
Exports - Machines, Vessels and Electronics	m Franc	STATI		0.11		0.10
Exports - Cars (including partial manufactures)	m Franc	STATI		0.08		0.08
Exports - Non-precious Metals	m Franc	STATI		0.14		0.13
Exports - Weavings (Cotton)	t	STATI		0.00		-0.00
Exports - Weavings (Wool)	t	STATI		0.12		0.11
Exports - Weavings (Silk)	t	STATI		0.03		0.03
Exports - Clothing	m Franc	STATI		0.10		0.10
Exports - Goods from the Chemical Industry	m Franc	STATI		0.10		0.10
Prices						
Wholesale Prices	Index (1926/1928)	STATI				
Retail Prices in Paris	Index	STATI				
Money and Banking						
Currency in Circulation (Central Bank)	m Franc	STATI				0.02
Private Deposits (Central Bank)	m Franc	STATI				-0.17
Bank Rate (Central Bank)	%	STATI				0.01
Market Rate	%	STATI	0.05	0.04		0.05
Clearings	m Franc	STATI	0.15	0.15		0.15
Real Interest Rate on Bonds	%	STATI	0.09	0.07		0.06
Real Dividends on Shares	%	STATI	-0.16	-0.13		-0.12
Cash Position (4 Large Credit Banks)	m Franc	STATI				-0.17
Balance (4 Large Credit Banks)	m Franc	STATI				0.09
Bills of Exchange (4 Large Credit Banks)	m Franc	STATI				0.03
Advances (4 Large Credit Banks)	m Franc	STATI				0.06
Deposits (4 Large Credit Banks)	m Franc	STATI				-0.09
Acceptances (4 Large Credit Banks)	m Franc	STATI				0.13
Emissions - Shares	m Franc	STATI	0.03	0.02		0.02
Emissions - Bonds	m Franc	STATI	0.04	0.05		0.05
Stock index	Index (1913)	STATI	0.11	0.10		0.10
Bond index	Index (1913)	STATI	-0.13	-0.09		-0.08
Number of Series			39	61	31	73
Variance Explained	%		39	31	45	30



## Comments

- From 1934, production series exclude Saarland.
- *Transportation - Shipped Goods*: Excluding coal and traffic within France.
- *Wholesale Prices*: Two series were linked.

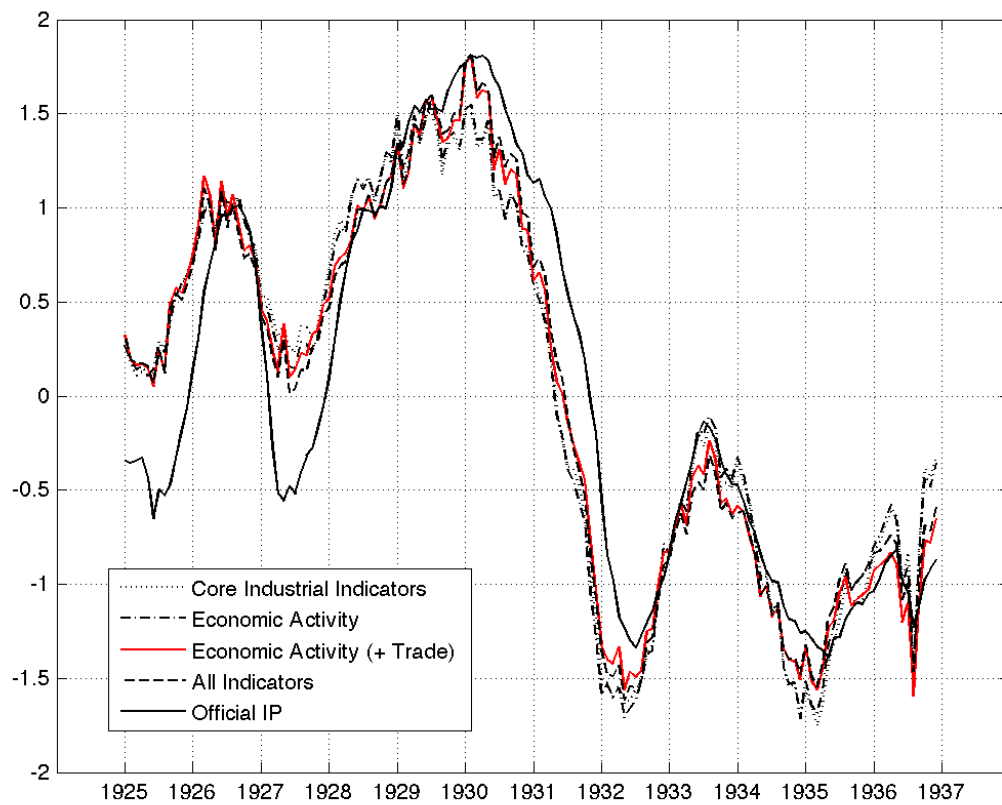


Figure 20: Indicators - France

## B.12. Germany

TABLE 15: DATA GERMANY

Variable Name	Unit	Source	Econ Activity	Principal Component Coefficients Econ Activity & Trade	Core Indicators	All
Production, Transport and Employment						
Industrial Production (Official)	Index (1928)	STATI				
Capital Goods - Production	Index (1928)	STATI	0.28	0.22	0.32	0.21
Consumption Goods - Production	Index (1928)	STATI	0.28	0.23	0.30	0.21
Paper - Production	Index (1928)	STATI	0.29	0.23	0.34	0.21
Textiles - Production	Index (1928)	STATI	0.25	0.21	0.27	0.18
Shoes - Production	Index (1928)	STATI	0.26	0.23	0.30	0.20
Electricity Production	Index (1932/1934)	STATI	0.21	0.16	0.25	0.15
Retail Sales - Total	Index (1928)	STATI	0.25	0.17	0.26	0.18
Retail Sales - Foodstuff	Index (1928)	STATI	0.16	0.12	0.19	0.12
Retail Sales - Clothes	Index (1928)	STATI	0.25	0.18	0.27	0.17
Retail Sales - Household Inventory	Index (1928)	STATI	0.25	0.18	0.23	0.20
Railways - Waggons for Goods	1000s per day	STATI	0.29	0.23	0.33	0.21
Sea Freights	Index (1913)	STATI	0.08	0.06	0.11	0.05
Unemployed (Recipients of Unemployment Insurance)	1000s	STATI	-0.22	-0.16	-0.21	-0.15
Hourly Wages (All Types of Workers)	Index (1928)	STATI	-0.19	-0.11		-0.08
Bankruptcies	Number	STATI	-0.12	-0.11	-0.19	-0.05
Compositions	Number	STATI	-0.13	-0.12	-0.20	-0.07
Trade						
Imports -Total	m Reichsmark	STATI		0.24		0.21
Exports -Total	m Reichsmark	STATI		0.07		0.12
Imports - Foodstuffs	m Reichsmark	STATI		0.15		0.12
Imports - Raw Materials & Semi-Manufactured Goods	m Reichsmark	STATI		0.24		0.21
Imports - Manufactured Goods	m Reichsmark	STATI		0.24		0.21
Exports - Foodstuffs	m Reichsmark	STATI		0.05		0.07
Exports - Raw Materials & Semi-Manufactured Goods	m Reichsmark	STATI		0.02		0.04
Exports - Manufactured Goods	m Reichsmark	STATI		0.08		0.13
Exports - Capital Goods	m Reichsmark	STATI		0.07		0.12
Exports -Consumption Goods	m Reichsmark	STATI		0.12		0.16
Imports - Oleiferous Fruits	1000 tons	STATI		0.06		0.06
Imports - Cotton	1000 tons	STATI		0.12		0.10
Imports - Wool	1000 tons	STATI		0.06		0.03
Imports - Timber	1000 tons	STATI		0.17		0.14
Imports - Petroleum	1000 tons	STATI		0.07		0.07
Imports - Iron Ore	1000 tons	STATI		0.18		0.16
Imports - Copper	1000 tons	STATI		0.17		0.14
Exports -Coal	1000 tons	STATI		-0.03		-0.03
Exports -Machines	m Reichsmark	STATI		0.04		0.09
Exports -Electric Manufactures	m Reichsmark	STATI		0.03		0.08
Exports -Paint and Lacquer	m Reichsmark	STATI		0.06		0.08
Exports -Cotton Weavings	tons	STATI		0.15		0.17
Exports -Wool Weavings	tons	STATI		0.12		0.16
Exports -Silk Weavings	tons	STATI		0.14		0.17
Exports -Clothes	m Reichsmark	STATI		0.10		0.12
Exports -Glass Manufactures	1000 tons	STATI		0.04		0.09
Exports -Paper and Paper Goods	1000 tons	STATI		0.04		0.09
Prices						
Prices - Goods of Elastic Demand	Index (1913)	STATI				
Wholesale Prices - General	Index (1913)	STATI				
Wholesale Prices - Agriculture (All)	Index (1913)	STATI				
Wholesale Prices - Industrial Raw Material and Semi-processed Goods	Index (1913)	STATI				
Wholesale Prices - Fully-manufactured Goods (All)	Index (1913)	STATI				
Wholesale Prices - Fully-manufactured Goods (Capital Goods)	Index (1913)	STATI				
Wholesale Prices - Fully-manufactured Goods (Consumption Goods)	Index (1913)	STATI				
Consumer Prices - Total	Index (1913/1914)	STATI				
Consumer Prices - Foodstuffs	Index (1913/1914)	STATI				
Consumer Prices - Housing	Index (1913/1914)	STATI				
Consumer Prices - Heating & Light	Index (1913/1914)	STATI				
Consumer Prices - Clothes	Index (1913/1914)	STATI				
Consumer Prices - Miscellaneous	Index (1913/1914)	STATI				
Prices - Construction	Index (1932/1934)	STATI				
Money and Banking						
Currency in Circulation (Central Bank)	m Reichsmark	STATI				0.07
Giro Transfers (Central Bank)	m Reichsmark	STATI	0.03	0.05		0.06
Clearings	m Reichsmark	STATI	-0.01	0.04		0.01
Giro Cheque Clearings	m Reichsmark	STATI	0.17	0.16		0.16
Bank Rate (Central Bank)	%	STATI				0.12
Market Rate	%	STATI	0.17	0.09		0.13
Interest Rate - Demand Deposits (daily)	%	STATI	0.17	0.09		0.13
Interest Rate - One-Month Money	%	STATI	0.18	0.10		0.14
Interest - Trade Bills	%	STATI	0.13	0.06		0.12
Interest Rate on Debit (with Commercial Banks)	%	STATI	0.10	0.04		0.10
Interest Rate on Credit (with Commercial Banks)	%	STATI	-0.06	-0.01		-0.04
Stock Emissions	m Reichsmark	STATI	0.05	0.04		0.03
Bond Emissions	m Reichsmark	STATI	-0.11	-0.05		-0.07
Number of Series			27	54	15	71
Variance Explained	%		28	22	45	22

## Comments

- *General*: Many series include the Saarland from 1934 onwards.
- *Shoes - Production*: New Composition from 1935 on, but series are broadly consistent.

- *Prices - Construction* : Two series were linked.
- *Unemployed (Recipients of Unemployment Insurance)*: From October 1936 on, recipients of the *Krisenfürsorge* are counted in in the original series. We deducted its last available value from it (454,000) for the last quarter of this series.
- *Hourly Wages in Types of Business (All Types of Workers)*: No variation from June 1933 on.
- *Currency in Circulation (Central Bank)*: From 1932 on slight change in the composition of the series, but still broadly consistent.
- *Interest Rate - One-Month Money*: Little variation from 1934 on.
- *Interest - Trade Bills*: Little variation from 1933 on
- *Stock Emissions*: Values for 1925 were recorded in quarterly sums and were simply split in monthly data.
- *Compositions*: Last three values for 1925 were recorded as a quarterly sums and were simply split in monthly data.

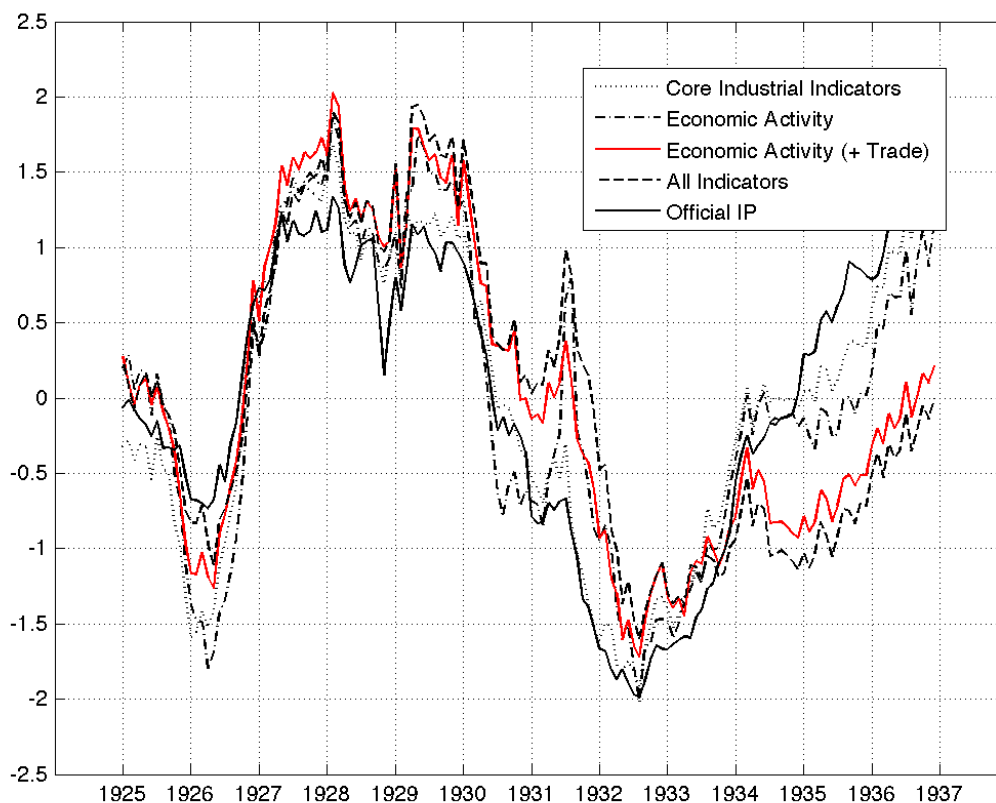


Figure 21: Indicators - Germany

## B.13. Great Britain

TABLE 16: DATA GREAT BRITAIN

Variable Name	Unit	Source	Econ Activity	Principal Component Coefficients Econ Activity & Trade	Core Indicators	All
<i>Production, Transport and Employment</i>						
Business Activity (Official Index)	Index (1935)	ECONOMIST				
Insured Persons Unemployed (Male) - Total	1000s	IAES	-0.26	-0.19	-0.27	-0.19
Insured Persons Unemployed (Male) - Coal	1000s	IAES	0.05	0.05	0.07	0.04
Insured Persons Unemployed (Male) - Iron and Steel	1000s	IAES	-0.29	-0.22	-0.31	-0.21
Insured Persons Unemployed (Male) - Engineering	1000s	IAES	-0.27	-0.20	-0.28	-0.20
Insured Persons Unemployed (Male) - Shipbuilding	1000s	IAES	-0.24	-0.19	-0.26	-0.19
Insured Persons Unemployed (Male) - Building and Construction	1000s	IAES	-0.16	-0.11	-0.15	-0.11
Insured Persons Unemployed (Male) - Cotton & Wool	1000s	IAES	-0.24	-0.17	-0.25	-0.17
Insured Persons Unemployed (Male) - Other Industries	1000s	IAES	-0.29	-0.22	-0.31	-0.22
Insured Persons Unemployed (Female) - Total	1000s	IAES	-0.23	-0.17	-0.25	-0.17
Insured Persons Unemployed (Female) - Cotton & Wool	1000s	IAES	-0.21	-0.15	-0.23	-0.16
Coal - Production	1000 tons	STATI	0.25	0.19	0.27	0.18
Pig Iron - Production	1000 tons	STATI	0.28	0.22	0.30	0.21
Raw Steel - Production	1000 tons	STATI	0.28	0.22	0.30	0.21
Railways - Transported Other Minerals	m tons	IAES	0.23	0.18	0.24	0.18
Railways - Transported Other Goods	m tons	IAES	0.25	0.19	0.27	0.18
Railways - Receipts	m tons	IAES	0.24	0.19		0.18
Shipping - Incoming Goods	1000 NRT	STATI	-0.06	-0.06	-0.08	-0.05
Shipping - Sea Freight	Index (1898/1913)	STATI	-0.05	-0.05	-0.06	-0.05
Weekly Wage (Pay Schedule)	Index (December 1924)	STATI	-0.13	-0.09		-0.10
<i>Trade</i>						
Imports - Total	m Pounds	STATI		0.05		0.05
Exports - Total	m Pounds	STATI		0.20		0.19
Imports - Foodstuff	m Pounds	STATI		0.06		0.05
Imports - Raw Materials and Semi-processed Goods	m Pounds	STATI		0.02		0.03
Imports - Fully-manufactured Goods	m Pounds	STATI		0.02		0.02
Exports - Foodstuff	m Pounds	STATI		0.11		0.10
Exports - Raw Materials and Semi-processed Goods	m Pounds	STATI		0.21		0.21
Exports - Fully-manufactured Goods	m Pounds	STATI		0.17		0.17
Exports - Consumption Goods	m Pounds	STATI		0.16		0.16
Exports - Capital Goods	m Pounds	STATI		0.17		0.17
Imports - Wheat	1000 tons	STATI		0.03		0.02
Imports - Cotton	1000 tons	STATI		-0.00		0.00
Imports - Iron Ore	1000 tons	STATI		0.20		0.20
Imports - Iron and Iron Goods	1000 tons	STATI		-0.03		-0.03
Imports - Machines	1000 tons	STATI		0.08		0.09
Exports - Coal	1000 tons	STATI		0.20		0.20
Exports - Bunker Coal	1000 tons	STATI		0.19		0.18
Exports - Iron and Iron Goods	1001 tons	STATI		0.20		0.20
Exports - Cotton Yarn	tons	STATI		0.13		0.13
Exports - Wool Yarn	tons	STATI		0.11		0.11
Exports - Machines	1000 Pounds	STATI		0.11		0.12
Exports - Electric Manufactures	1000 Pounds	STATI		0.03		0.03
Exports - Ships	1000 Pounds	STATI		-0.01		-0.02
Exports - Cotton Weavings	m $m^2$	STATI		0.14		0.14
Exports - Wool Weavings	1000 $m^2$	STATI		0.13		0.13
<i>Prices</i>						
Wholesale Prices - General	Index (1932/1934)	STATI				
Consumer Prices - General	Index (July 1914)	STATI				
Consumer Prices - Food	Index (July 1914)	STATI				
Consumer Prices - Textiles	Index (July 1914)	STATI				
<i>Money and Banking</i>						
Gold Stock (Central Bank)	m Pounds	STATI				0.03
Bills of Exchange (Bank of England)	m Pounds	STATI				-0.05
Other Securities (Central Bank)	m Pounds	STATI				-0.07
Cash Reserve (Central Bank)	m Pounds	STATI				0.01
Currency in Circulation (Central Bank)	m Pounds	STATI				0.02
Public Deposits (Central Bank)	m Pounds	STATI				0.01
Deposits by Banks (Central Bank)	m Pounds	STATI				0.01
Private Deposits (Central Bank)	m Pounds	STATI				0.02
Clearings - London Clearing House (Town)	m Pounds	STATI	-0.03	-0.01		-0.02
Clearings - London Clearing House (Country)	m Pounds	STATI	0.04	0.04		0.02
Bank Rate (Central Bank)	%	STATI				0.03
Interest on Call Money	%	STATI		0.02		0.03
Market Rate	%	STATI		0.05		0.02
Interest on Treasury Bill	%	STATI		0.02		0.03
Real Interest on Obligations	%	STATI		0.06		0.02
Clearing Banks - Cash Reserve	m Pounds	STATI				-0.05
Clearing Banks - Short Term Loans	m Pounds	STATI	-0.03	-0.00		-0.01
Clearing Banks - Bills of Exchange	m Pounds	STATI				-0.07
Clearing Banks - Securities	m Pounds	STATI				-0.01
Clearing Banks - Advances	m Pounds	STATI				-0.07
Clearing Banks - Deposits	m Pounds	STATI				-0.08
Clearing Banks - Acceptances	m Pounds	STATI				0.07
Emissions - Total	m Pounds	STATI	-0.02	0.00		0.00
Emissions - From Domestic Companies	m Pounds	STATI	-0.02	0.01		0.00
Stocks - Value	Index (1924)	STATI	0.10	0.08		0.08
Bonds - Value	Index (1924)	STATI	-0.09	-0.05		-0.06
Outstanding Treasury bills	m Pounds	STATI				0.01
Number of Series			30	55	17	76
Variance Explained	%		36	32	57	26

## Comments

- *Official Index*: The index is taken from The Economist (1933), and is a weighted average based on 18 series (4 employment, coal consumption, consumption of electricity, merchandise on railways, postal receipts, motor vehicle registrations, building activity, consumption of iron and steel, imports of non-ferrous metals, exports of British manufactures, movements of shippings, provincial bank clearings, and London bank clearings).
- *Wholesale Prices*: Two Indices have been linked.
- *Railways Series*: Values for 1932: Thirteen 4-week values were given. Hence the 7th value was taken, divided by 12 and added to the other months.
- *Gold Stock*: Data after September 1931 was transcribed from Howson (1980, p. 80) and includes the Holdings of the Exchange Equalisation Fund.

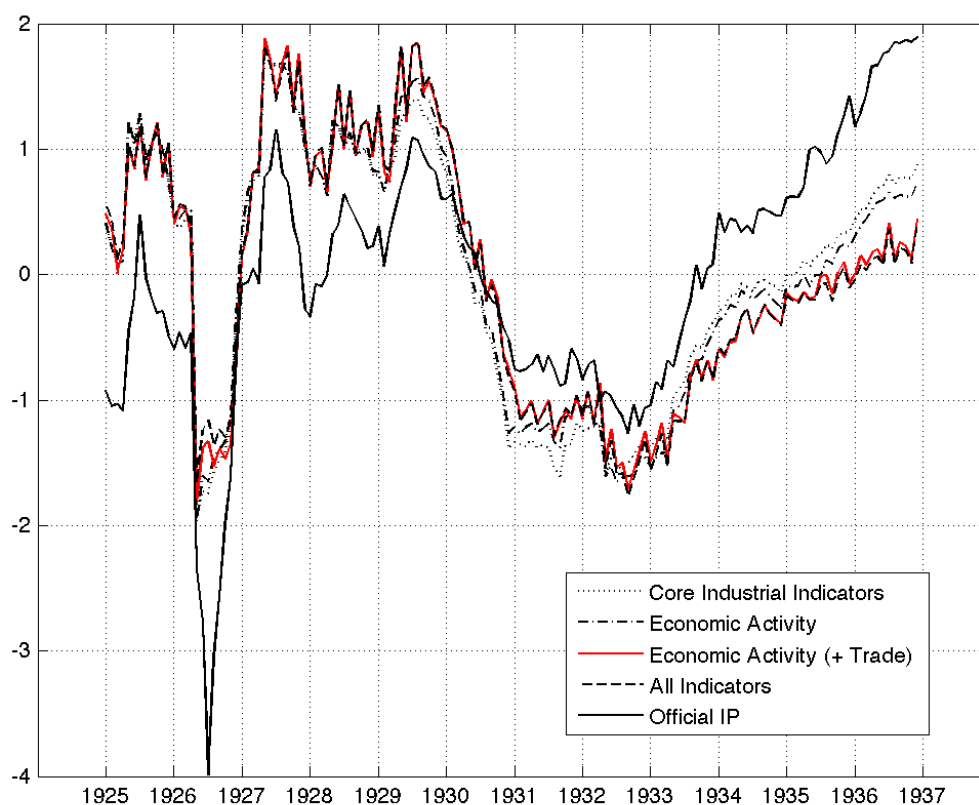


Figure 22: Indicators - Great Britain

## B.14. Hungary

TABLE 17: DATA HUNGARY

Variable Name	Unit	Source	Econ Activ- ity	Econ Activ- ity & Trade	Core Indica- tors	All
Production, Transport and Employment						
Mining - Lignite	1000 tons	STATI	0.34	0.24	0.33	0.24
Mining - Iron Ore	1000 tons	STATI	0.20	0.19	0.20	0.17
Mining - Coal	1000 tons	IAES	0.02	-0.01	0.01	0.00
Sugar - Production	1000 tons	IAES	0.21	0.17	0.20	0.17
Alcohol - Production	1000 tons	IAES	0.20	0.16	0.21	0.14
Number of Applications per 100 Job Advertisements	number per 100 vacancies	STATI	-0.27	-0.22	-0.27	-0.22
Unemployed Union Members	1000s	STATI	-0.25	-0.22	-0.26	-0.24
Employment - Vacancies filled	1000s	IAES	0.04	-0.01	0.03	0.02
Railways - Transported Goods	1000 tons	STATI	0.47	0.37	0.48	0.34
Railways - Transported Goods	m ton-km	IAES	0.41	0.31	0.41	0.26
Railways - Passengers Carried	m Person-km	IAES	0.17	0.15	0.18	0.12
Railways - Car Loadings	1000s	IAES	0.41	0.30	0.42	0.27
Bankruptcies	Cases	IAES	-0.12	-0.08	-0.13	-0.12
Compositions	Cases	IAES	0.00	-0.00	-0.02	-0.05
Trade						
Imports	m Pengp	STATI		0.28		0.30
Exports	m Pengo	STATI		0.21		0.15
Imports - Raw Cotton	t	STATI		0.16		0.14
Imports - Wood	1000 tons	STATI		0.25		0.24
Imports Stone Coal and Coke	1000 tons	STATI		0.22		0.22
Imports Machines	1000 Pengo	STATI		0.18		0.18
Imports - Cotton Materials	t	STATI		0.14		0.14
Exports - Wheat	1000 tons	STATI		0.17		0.13
Exports - Flower	1000 tons	STATI		0.24		0.21
Exports - Cattle	1000s	STATI		0.06		-0.00
Exports - Pigs	1000s	STATI		0.07		0.02
Prices						
Wholesale Prices - Price-elastic Goods	Index (1925/27)	STATI				
Wholesale Prices - All Goods	Index (1913)	STATI				
Wholesale Prices - Agricultural Goods	Index (1913)	STATI				
Wholesale Prices - Industry	Index (1913)	STATI				
Wholesale Prices - Wheat	Pengo je 100 kg	STATI				
Consumer Price Index	Index (1913)	STATI				
Consumer Price Index - Foodstuff	Index (1913)	STATI				
Consumer Price Index - Textiles	Index (1913)	STATI				
Money and Banking						
Gold Stock (Central Bank)	m Pengo	STATI				0.08
Foreign Exchange (Central Bank)	m Pengo	STATI				-0.14
Bills of Exchange and Advances (Central Bank)	m Pengo	STATI				0.12
Advances to the Government (Central Bank)	m Pengo	STATI				-0.10
Currency in Circulation (Central Bank)	m Pengo	STATI				-0.01
Deposits by the Government (Central Bank)	m Pengo	STATI				0.07
Deposits Others (Central Bank)	m Pengo	STATI				-0.07
Bank Rate (Central Bank)	%	STATI				0.12
Market Rate	%	STATI	0.09	0.05		0.08
Current Account (Private Banks)	m Pengo	STATI				0.16
Savings (Private Banks)	m Pengo	STATI				0.11
Number of Series			15	26	14	44
Variance Explained	%		23	20	25	16

## Comments

- Wholesale prices of “All Goods”, “Agriculture Goods”, and “Industry” are based on a new series from 1929 on. However, the Reichsamt already matched the indices. They exhibit no structural breaks.
- *Gold Stock*: shows little variation from 1932 on, which might be due to new regulation.

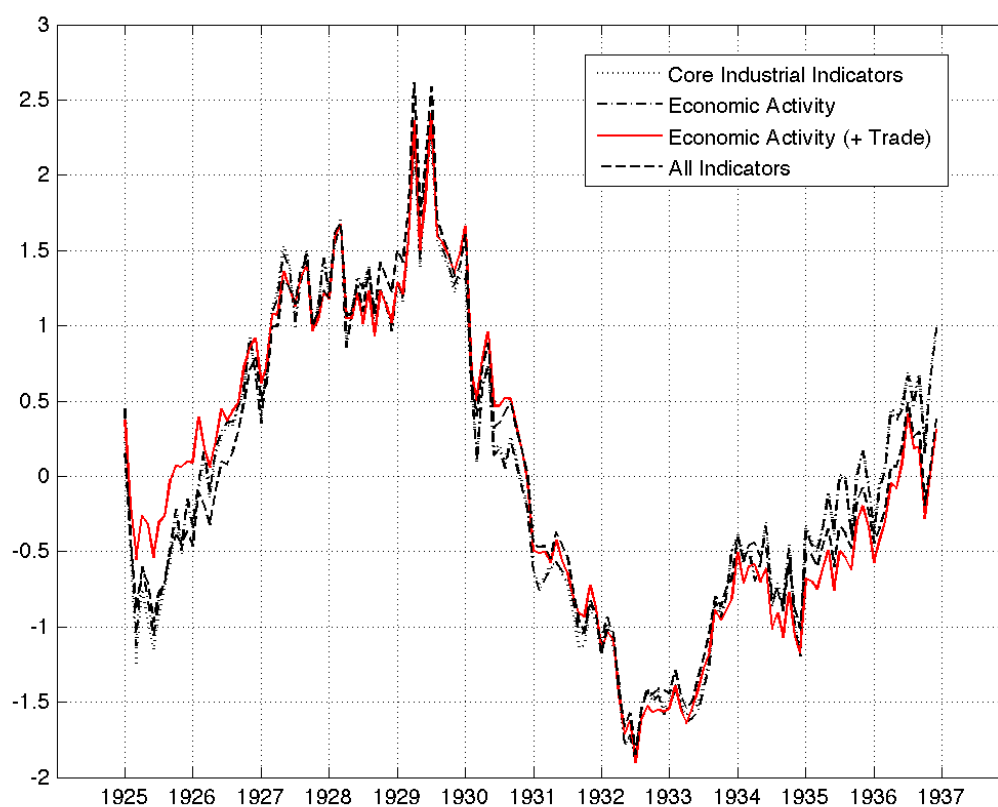


Figure 23: Indicators - Hungary

## B.15. Italy

TABLE 18: DATA ITALY

Variable Name	Unit	Source	Econ Activ- ity	Principal Component Coefficients Econ Activ- ity & Trade	Core Indica- tors	All
<i>Production, Transport and Employment</i>						
Raw Steel Production	1000 tons	STATI	0.35	0.30	0.34	0.28
Transported Goods (Railways)	1000 tons	STATI	0.43	0.35	0.44	0.33
Transported Goods (Shipping - Incoming)	1000 tons	STATI	0.18	0.15	0.18	0.14
Transported Goods (Shipping - Outgoing)	1000 tons	STATI	0.31	0.24	0.32	0.23
Unemployed	1000s	STATI	-0.46	-0.37	-0.47	-0.35
Unemployed - Agriculture	1000s	STATI	-0.36	-0.25	-0.37	-0.24
Unemployed - Industry	1000	STATI	-0.44	-0.36	-0.45	-0.35
<i>Trade</i>						
Imports	Mill Lira	STATI		0.25		0.22
Exports	Mill Lira	STATI		0.13		0.12
Imports - Wheat	1000 tons	STATI		-0.04		-0.07
Imports - Raw Cotton	1000 tons	STATI		0.14		0.13
Imports - Wool	1000 tons	STATI		0.07		0.07
Imports - Wood	1000 tons	STATI		0.23		0.22
Imports - Coal	1000 tons	STATI		0.17		0.17
Imports - Scrap Metal	1000 tons	STATI		0.22		0.20
Imports Machines	Mill Lira	STATI		0.28		0.28
Exports - Mandarin, Orange and Citrus	tons	STATI		0.04		0.04
Exports - Olive Oil	tons	STATI		0.14		0.11
Exports - Cheese	tons	STATI		0.00		-0.00
Exports - Raw Silk	tons	STATI		0.06		0.05
Exports - Cars	Number	STATI		0.11		0.11
<i>Prices</i>						
Wholesale Prices	Index (1934	STATI				
<i>Money and Banking</i>						
Gold Stock (Central Bank)	m Lira	STATI				0.09
Foreign Exchange (Central Bank)	m Lira	STATI				-0.12
Bills of Exchange and Advances (Central Bank)	m Lira	STATI				0.14
Currency in Circulation (Central Bank)	m Lira	STATI				0.17
Deposits (Central Bank)	m Lira	STATI				-0.14
Clearings	Index (1932/1934)	STATI	0.09	0.06		0.06
Clearings - Giro Cheques	m Lira	STATI	-0.02	-0.06		-0.07
Bank Rate (Central Bank)	%	STATI				0.04
Market Rate	%	STATI	-0.08	-0.07		-0.05
Capital Increases or Start-Ups for Listed Stock Corporations	m Lira	STATI	0.10	0.10		0.10
Capital Decreases or Liquidations of Listed Stock Corporations	m Lira	STATI	-0.07	-0.02		-0.02
Number of Series			12	26	7	33
Variance Explained	%		32	21	54	18

## Comments

- Values for the first three years of the *Gold Stock* and *Foreign Exchange* series have been converted to the 1928 parity. We follow the explanations for Article 3 of the decree law No. 253 given in the Federal Reserve Bulletin (Federal Reserve Board, 1928, p. 493).
- *Wholesale Prices*: Two series were linked via re-basing.
- *Clearings*: Two series were linked via re-basing.



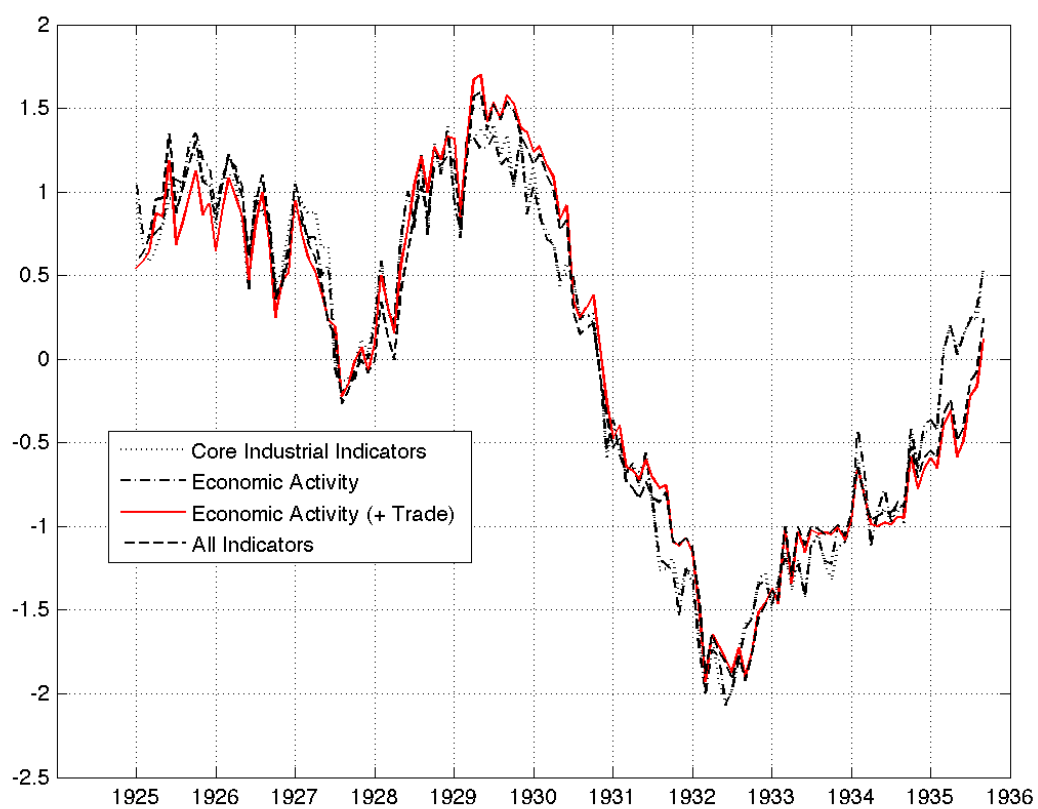


Figure 24: Indicators - Italy

## B.16. Japan

TABLE 19: DATA JAPAN

Variable Name	Unit	Source	Principal Component Coefficients			
			Econ Activ- ity	Econ Activ- ity & Trade	Core Indica- tors	All
<i>Production, Transport and Employment</i>						
Warehouses - Turnover	Mill Yen	STATI	-0.02	0.02		0.01
Warehouses - Stocks (Value)	m Yen	STATI	-0.04	0.02		-0.05
Warehouses - Stocks (Quantity)	m Pieces	IAES	0.06	0.11	0.26	0.04
Employment (Industry)	Index (1926)	STATI	0.30	0.31	0.47	0.22
Coal Production	1000 t	STATI	0.30	0.26	0.40	0.20
Textiles Production	Index (1930)	STATI	0.18	0.21	0.35	0.13
Silk Production	t	STATI	0.03	0.03	0.07	0.02
Transported Goods (Railway)	1000 t	STATI	0.40	0.35	0.47	0.27
Wages	Index (1926)	STATI	-0.40	-0.34		-0.32
Real Wages	Index (1926)	STATI	0.37	0.33	0.44	0.27
<i>Trade</i>						
Imports	m Yen	STATI		0.22		0.15
Exports	m Yen	STATI		0.26		0.22
Imports - Raw Cotton	1000 t	STATI		0.06		0.03
Imports - Wool	t	STATI		-0.09		-0.06
Imports - Stone Coal	1000 t	STATI		0.17		0.12
Imports - Pig Iron	1000 t	STATI		0.08		0.06
Imports - Machines	1000 Yen	STATI		0.22		0.15
Exports - Raw Silk	t	STATI		-0.00		-0.01
Exports - Cotton Threads	t	STATI		-0.02		-0.02
<i>Prices</i>						
Wholesale Prices	Index (Juli 1914)	STATI				
Consumer Prices (Tokyo)	Index (Juli 1914)	STATI				
<i>Money and Banking</i>						
Gold Stock (Central Bank)	m Yen	STATI				0.13
Bills of Exchange and Advances (Central Bank)	m Yen	STATI				-0.00
Currency in Circulation (Central Bank)	m Yen	STATI				0.14
Deposits by the Government (Central Bank)	m Yen	STATI				-0.02
Deposits by Banks (Central Bank)	m Yen	STATI				0.19
Clearings	m Yen	STATI	0.08	0.05		-0.00
Bank Rate (Central Bank)	%	STATI				-0.18
Market Rate	%	STATI	-0.37	-0.29		-0.28
Market Rate - Demand Deposits	%	STATI	-0.28	-0.22		-0.23
Clearing Banks - Cash Position	m Yen	STATI				0.01
Clearing Banks - Stocks	m Yen	STATI	-0.15	-0.11		-0.15
Clearing Banks - Bills of Exchange and Advances	m Yen	STATI				-0.29
Clearing Banks - Deposits	m Yen	STATI				-0.23
Giro Banks - Savings	m Yen	STATI				-0.31
Stock Emissions	m Yen	STATI	0.03	0.03		0.01
Stock Companies - New Investments	m Yen	STATI	0.05	0.05		0.01
Stock Companies - Lost Capital	m Yen	STATI	-0.05	-0.05		-0.04
Stock Prices (50 Industrial Shares)	Yen	IAES	0.27	0.24		0.17
Number of Series			18	27	7	39
Variance Explained	%		25	20	42	21

### Comments

- Clearings: Statistisches Reichsamt (1937, p. 134) and Statistisches Reichsamt (1936, p. 385) report slightly different values for the years 1933 and 1934, which might be due to a revision of the former statistics.
- Transported Goods (Railway): Value for December 1936 was missing and assumed to take the same value as in November.
- Gold Stock (Central Bank): Little variation until 1930.
- Bills of Exchange and Advances (Central Bank): Series reported in Statistisches Reichsamt (1937, p. 134) and Statistisches Reichsamt (1936, p. 385) differ slightly in their definition and were hence linked via re-basing them to a common base year.
- Stock Companies - New Investments & Stock Companies - Lost Capital: Values for November/December 1935 assumed to equal those of October.

- There are some production indices in the *IAES*, but they cannot be linked in a sensible manner. Hence, they were excluded from the sample.

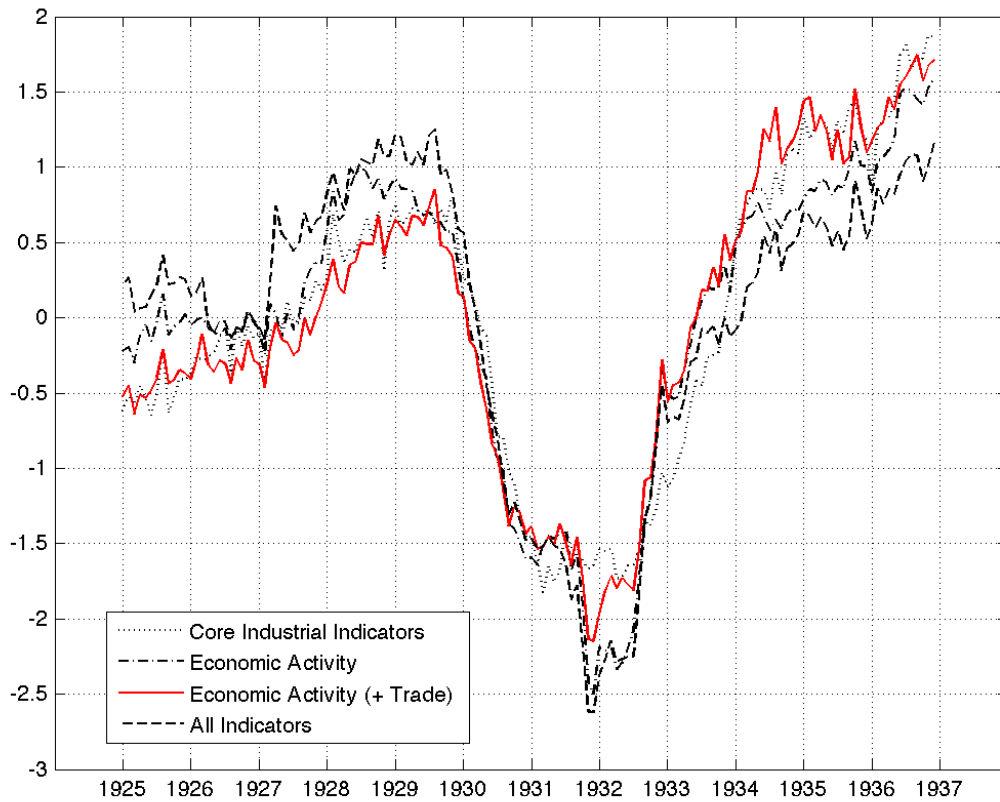


Figure 25: Indicators - Japan

## B.17. Latvia

TABLE 20: DATA LATVIA

Variable Name	Unit	Source	Principal Component Coefficients			
			Econ Activ- ity	Econ Activ- ity & Trade	Core Indica- tors	All
<i>Production, Transport and Employment</i>						
Transported Goods (Railway)	1000 tons	STATI	0.40	0.30		0.23
Transported Goods (Shipping - Incoming)	1000 NRT	STATI	0.22	0.24		0.15
Health Insurance Members	1000s	STATI	0.53	0.40		0.37
Unemployed	Number	STATI	-0.50	-0.37		-0.31
Bankruptcies (Number)	Number	STATI	-0.38	-0.27		-0.23
Bankruptcies (Volume)	1000 Lat	STATI	-0.12	-0.06		-0.05
<i>Trade</i>						
Imports	m lat	STATI		0.36		0.30
Exports	m Lat	STATI		0.27		0.22
Imports - Textiles	1000 Lat	STATI		0.37		0.31
Exports - Flax	tons	STATI		0.04		0.02
Exports - Line Seed	tons	STATI		0.10		0.09
Exports - Butter	tons	STATI		0.04		0.06
Exports - Bacon	tons	STATI		0.17		0.13
Exports - Plancks	tons	STATI		0.21		0.12
Exports - Paper	tons	STATI		0.12		0.08
<i>Prices</i>						
Wholesale Prices	Index (1928=100)	STATI				
Consumer Prices	Index (1930/1933)	STATI				
Consumer Prices - Foodstuff	Index (1930/1933)	STATI				
<i>Money and Banking</i>						
Gold Stock (Central Bank)	m Lat.	STATI				-0.15
Foreign Exchange (Central Bank)	m Lat.	STATI				0.00
Bills of Exchange and Advances (Central Bank)	m Lat.	STATI	0.31	0.20		0.22
Currency in Circulation (Central Bank)	m Lat.	STATI				0.17
Deposits (Central Bank)	m Lat.	STATI				0.07
Bank Rate (Central Bank)	%	STATI				-0.01
Private Banks - Bills of Exchange and Advances	m Lat.	STATI				0.35
Private Banks - Deposits	m Lat.	STATI				0.34
Protested Bills of Exchange	1000 Lat	STATI	0.03	-0.02		0.01
Number of Series			8	17	5	27
Variance Explained	%		35	26		25

## Comments

- *Consumer Prices*: Two series were linked via re-basing.
- *Gold Stock*: Exhibits little variance for most of the time.
- *Gold stock / Foreign Exchange*: Values for September–December 1936 have been converted to the old parity. The Lat was devalued by 40 % (Karnups, 2012, p. 56). See also “Goldwert der Valuta” series (Statistisches Reichsamt, 1937, p. 70).
- *Whole Sale Prices*: As data for wholesale prices becomes only available in 1928, we chained retail prices for 1926–1927 from League of Nations (1928, p. 219) into the series.

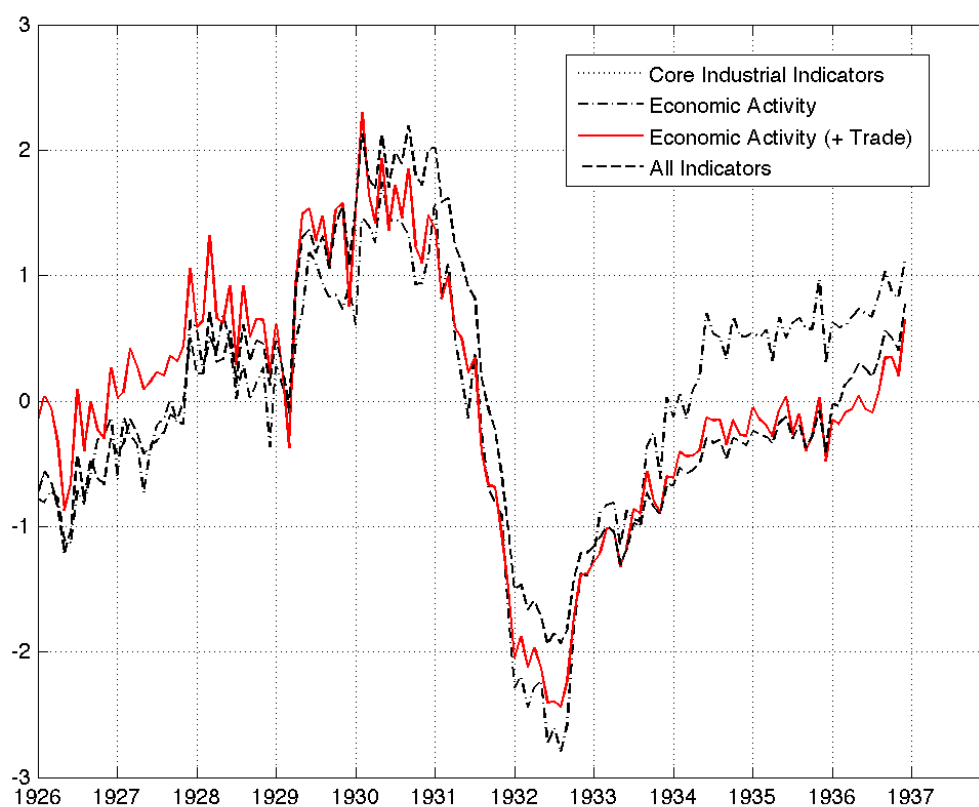


Figure 26: Indicators - Latvia

## B.18. Lithuania

TABLE 21: DATA LITHUANIA

Variable Name	Unit	Source	Econ Activ- ity	Principal Component Coefficients		
				Econ Activ- ity & Trade	Core Indica- tors	All
<i>Production, Transport and Employment</i>						
Transported Goods (Railway)	1000 t	STATI		0.28		0.19
Transported Goods (Ships - Incoming)	1000 NRT	STATI		0.31		0.19
<i>Trade</i>						
Imports	1000 Lit	STATI		0.45		0.40
Exports	1000 Lit	STATI		0.38		0.27
Imported Agricultural Machines	1000 Lit	STATI		0.19		0.16
Imports Textiles	1000 Lit	STATI		0.43		0.42
Exports Flax	tons	STATI		0.04		0.00
Exports Linseed	tons	STATI		0.11		0.06
Exports Butter	tons	STATI		0.21		0.21
Export Eggs	tons	STATI		0.18		0.14
Export Planks	tons	STATI		0.12		0.04
Exports Cellulose	tons	STATI		0.25		0.13
<i>Prices</i>						
Wholesale Prices	Index (1913)	STATI				
Wholesale Prices (Flax)	Lit per Kg	STATI				
Consumer Prices	Index (1913)	STATI				
<i>Money and Banking</i>						
Gold Stock (Central Bank)	m Lit	STATI				-0.09
Foreign Exchange (Central Bank)	m Lit	STATI				0.39
Bills of Exchange and Advances (Central Bank)	m Lit	STATI				-0.04
Currency in Circulation (Central Bank)	m Lit	STATI				0.25
Deposits (Central Bank)	m Lit	STATI				0.24
Bank Rate (Central Bank)	%	STATI				-0.19
Protested Bills of Exchange	1000 Lit	STATI		-0.30		-0.32
Number of Series			3	13	2	22
Variance Explained	%			26		23

## Comments

- The Economist (1934) pictured Lithuania as an agrarian country, which was hindered in its development mainly because of the global depression. The exports of agrarian goods fell, but even more did those of manufactured goods (The Economist, 1934, p. 370). The downturn in the beginning of 1929 is due to Lithuania's dependence on trade. In the beginning of the year, the baltic sea was frozen and navigation was closed (The Economist, 1929, p. 484).

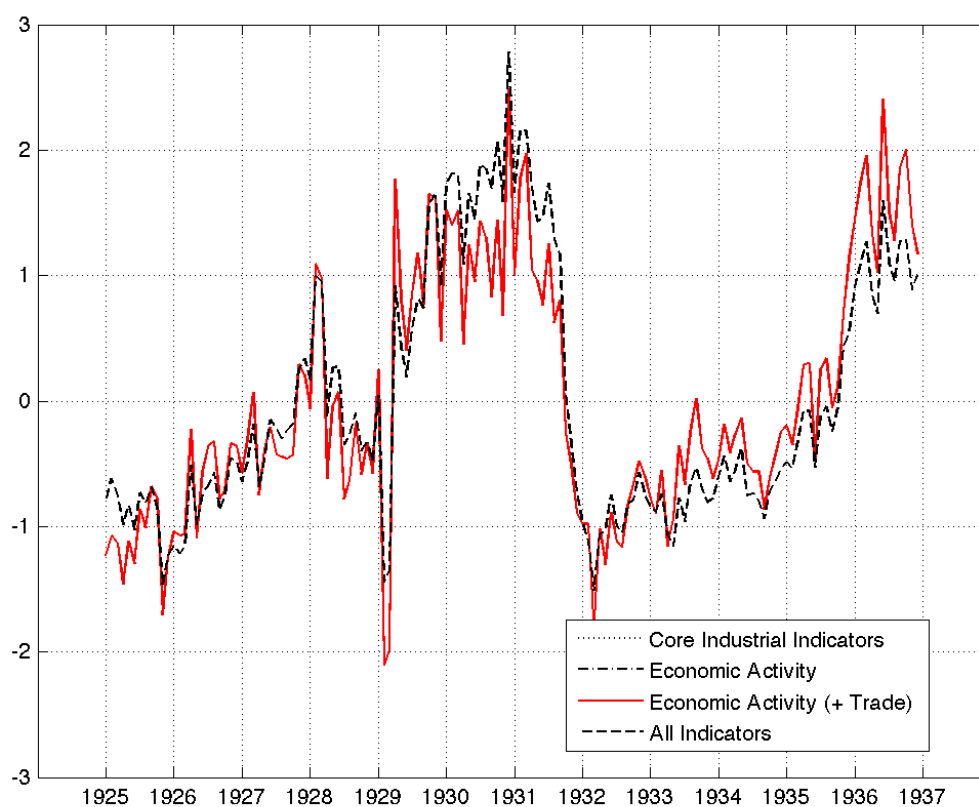


Figure 27: Indicators - Lithuania

## B.19. Mexico

TABLE 22: DATA MEXICO

Variable Name	Unit	Source	Principal Component Coefficients			
			Econ Activ- ity	Econ Activ- ity & Trade	Core Indica- tors	All
<i>Production, Transport and Employment</i>						
Oil Production	1000 hectoliters	STATI	0.20	0.19		0.20
Copper Production	tons	STATI	0.44	0.38		0.37
Lead Production	tons	STATI	0.41	0.35		0.33
Zinc Production	tons	STATI	0.39	0.31		0.30
Gold Production	kg	STATI	0.40	0.33		0.31
Silver Production	tons	STATI	0.49	0.41		0.39
<i>Trade</i>						
Imports - Total	m Pesos	STATI		0.31		0.33
Exports - Total	m Pesos	STATI		0.35		0.31
Exports - Vegetables	m Pesos	STATI		0.02		0.02
Exports - Minerals	m Pesos	STATI		0.28		0.27
<i>Prices</i>						
Wholesale Prices	Index (1929=100)	Stati				
<i>Money and Banking</i>						
Currency in Circulation (Central Bank)	m Pesos	STATI				0.01
All Banks - Liquid Assets	m Pesos	STATI				0.15
All Banks - Short Term Loans	m Pesos	STATI	0.16	0.14		0.18
All Banks - Long-term Loans	m Pesos	STATI	-0.17	-0.08		-0.07
All Banks - Other Loans	m Pesos	STATI				-0.02
All Banks - Sight Liabilities	m Pesos	STATI				0.02
All Banks - Future Liabilities	m Pesos	STATI				0.18
All Banks - Other Liabilities	m Pesos	STATI				0.06
Number of Series			8	12	6	19
Variance Explained	%		37	32		22

## Comments

- *All Banks* series: Those include the central bank.
- *Wholesale Prices*: The Values for 1927–1929 are based on Retail Prices from the League of Nations (1929, p. 277), which have been chained into the series. Values for 1927 are linearly interpolated as only quarterly data were available. From 1930 on, they are simply wholesale prices.



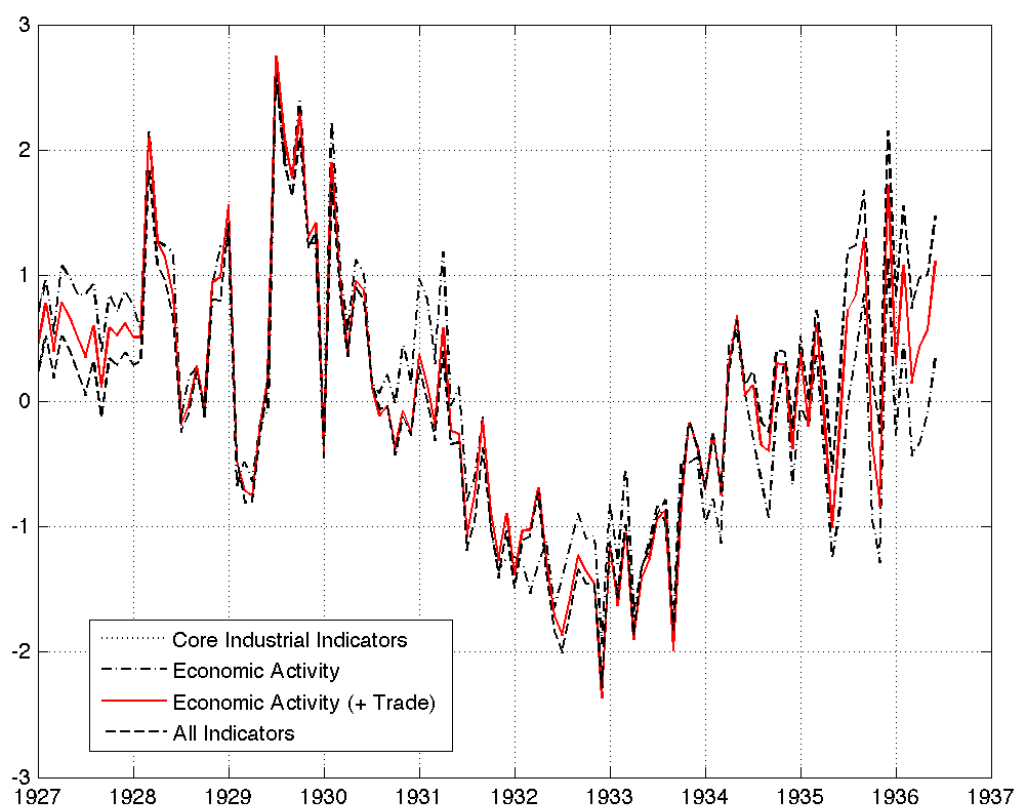


Figure 28: Indicators - Mexico

## B.20. Netherlands

TABLE 23: DATA NETHERLANDS

Variable Name	Unit	Source	Principal Component Coefficients			
			Econ Activ- ity	Econ Activ- ity & Trade	Core Indica- tors	All
Production, Transport and Employment						
Coal Production	1000 tons	STATI	0.09	0.12	0.10	0.09
Constructions Completed	m Guilders	STATI	0.15	0.14		0.13
Incoming Ships	1000 NRT	STATI	0.18	0.12	0.19	0.12
Shipping (Sea Vessels) - Entered	m tons	IAES	0.23	0.17	0.25	0.16
Shipping (Sea Vessels) - Cleared	m tons	IAES	0.07	0.10	0.09	0.09
Shipping (Rivers/Canals) - Entered	m tons	IAES	0.19	0.19	0.23	0.16
Shipping (Rivers/Canals) - Cleared	m tons	IAES	0.19	0.16	0.22	0.14
Railways - Transported Goods	1000 tons	STATI	0.07	0.07	0.06	0.06
Total Unemployment (Insured)	%	STATI	-0.34	-0.26	-0.38	-0.24
Unemployment - Lost Days (Total)	%	STATI	-0.35	-0.26	-0.38	-0.25
Unemployment - Lost Days (Coal Mining)	%	STATI	-0.06	-0.07	-0.05	-0.04
Unemployment - Lost Days (Metallurgic Industry)	%	STATI	-0.33	-0.23	-0.33	-0.23
Unemployment - Lost Days (Foodstuff Industry)	%	STATI	-0.26	-0.18	-0.30	-0.18
Unemployment - Lost Days (Textile Industry)	%	STATI	-0.29	-0.21	-0.30	-0.20
Unemployment - Lost Days (Construction)	%	STATI	-0.32	-0.25	-0.36	-0.24
Unemployment - Vacancies per 100 Applicants	Number	IAES	0.22	0.15	0.23	0.14
Bankruptcies	Real Number	STATI	-0.13	-0.06	-0.13	-0.07
Trade						
Total Imports	m Guilders	STATI		0.22		0.20
Total Exports	m Guilders	STATI		0.22		0.19
Imports - Foodstuffs	m Guilders	STATI		0.07		0.05
Imports - Raw Materials & Semi-Manufactured Goods	m Guilders	STATI		0.25		0.22
Imports - Manufactured Goods	m Guilders	STATI		0.18		0.16
Exports - Foodstuffs	m Guilders	STATI		0.13		0.12
Exports - Raw Materials & Semi-Manufactured Goods	m Guilders	STATI		0.20		0.17
Exports - Manufactured Goods	m Guilders	STATI		0.19		0.17
Imports - Coal & Coke	1000 tons	STATI		0.19		0.17
Exports - Butter	tons	STATI		0.13		0.12
Exports - Cheese	tons	STATI		0.02		0.02
Exports - Eggs	tons	STATI		0.02		0.01
Exports - Magarine	tons	STATI		0.16		0.16
Exports - Coal & Coke	1000 tons	STATI		0.16		0.14
Exports - Artificial Silk	tons	STATI		0.11		0.10
Exports - Cotton Fabrics	tons	STATI		0.08		0.07
Exports - Light Bulbs	1000s	STATI		0.02		0.02
Prices						
Wholesale Prices	Index (1913)	STATI				
Food Prices	Index (1913)	STATI				
Money and Banking						
Gold Stock (Central Bank)	m Guilders	STATI				-0.19
Foreign Currency (Central Bank)	m Guilders	STATI				0.08
Bills of Exchange (Central Bank)	m Guilders	STATI				0.01
Currency in Circulation (Central Bank)	m Guilders	STATI				-0.14
Deposits Total (Central Bank)	m Guilders	STATI				-0.16
Private Deposits (Central Bank)	m Guilders	STATI				-0.17
Clearings (Central Bank)	m Guilders	STATI	0.15	0.13		0.15
Giro Cheque Turnover	m Guilders	STATI	-0.06	-0.01		-0.01
Bank Rate (Central Bank)	%	STATI				-0.01
Market Rate	%	STATI	0.00	-0.01		0.01
Carryover Rate	%	STATI	-0.02	-0.02		-0.01
Deposits Saving Banks	m Guilders	STATI				-0.18
Total Issues of Obligation and Stocks	m Guilders	STATI	-0.03	-0.03		-0.02
Stock Market Index	Index (21/25)	STATI	0.22	0.16		0.15
Stock Market Index - Dutch Stocks only	Index (21/25)	STATI	0.22	0.16		0.15
Revenues from Stock Exchange Tax	1000 Guilders	STATI	0.07	0.03		0.03
Number of Series			25	42	16	52
Variance Explained	%		28	25	39	24

## Comments

- *Revenues from Stock Exchange Tax*: values for 10/1925 11/1925 were given as one number. We simply divide the value by 2.
- *Exports - Light Bulbs*: Tenfold increase from 1928 on.

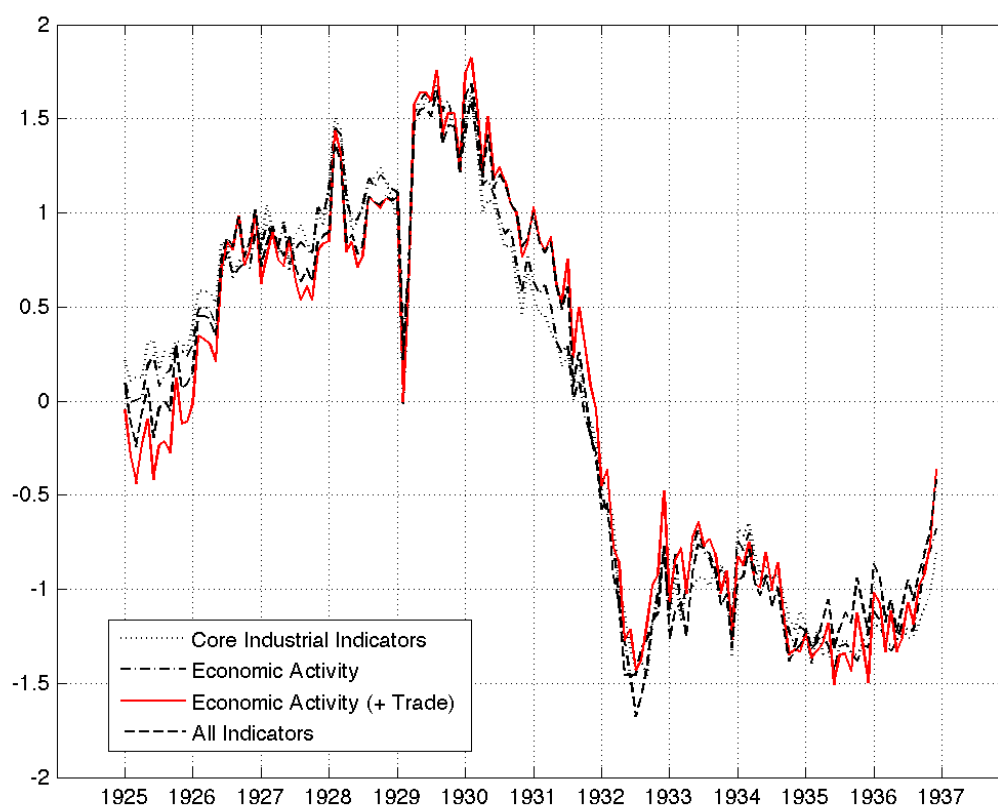


Figure 29: Indicators - Netherlands

## B.21. New Zealand

TABLE 24: DATA NEW ZEALAND

Variable Name	Unit	Source	Principal Component Coefficients			
			Econ Activ- ity	Econ Activ- ity & Trade	Core Indica- tors	All
<i>Production, Transport and Employment</i>						
Construction Permits	1000 Pounds	STATI	0.26	0.26		0.26
Incoming Ships	1000 NRT	STATI	0.08	0.08		0.08
Unemployed	Index(1932/1934)	STATI	-0.27	-0.27		-0.27
<i>Trade</i>						
Imports	m Pound	IAES		0.25		0.25
Exports	m Pound	IAES		0.05		0.05
Exports - Butter	t	STATI		0.01		0.01
Exports - Cheese	t	STATI		0.06		0.06
Exports - Meat	t	STATI		-0.05		-0.05
Exports - Wool	t	STATI		-0.00		-0.00
<i>Prices</i>						
Wholesale Prices	Index (1909/13)	STATI				
Food Prices (for consumers)	Index (1926/30)	STATI				
<i>Money and Banking</i>						
Stocks	Index (1926)	STATI	0.24	0.23		0.23
Mortgages - Registered	1000s	IAES	0.38	0.37		0.37
Mortgages - Registered	m Pound	IAES	0.38	0.36		0.36
Mortgages - Discharged	1000s	IAES	0.39	0.38		0.38
Mortgages - Discharged	m Pound	IAES	0.33	0.32		0.32
Land Transfers - Registered	1000s	IAES	0.39	0.38		0.38
Land Transfers - Registered	m Pound	IAES	0.29	0.29		0.29
Number of Series			10	16	3	18
Variance Explained	%		55	36		36

## Comments

- *Unemployed*: extrapolated with male unemployed from 1935 onwards.
- *Stocks*: Values for December 1926, 1927, 1928, 1930 were missing and therefore linearly interpolated.

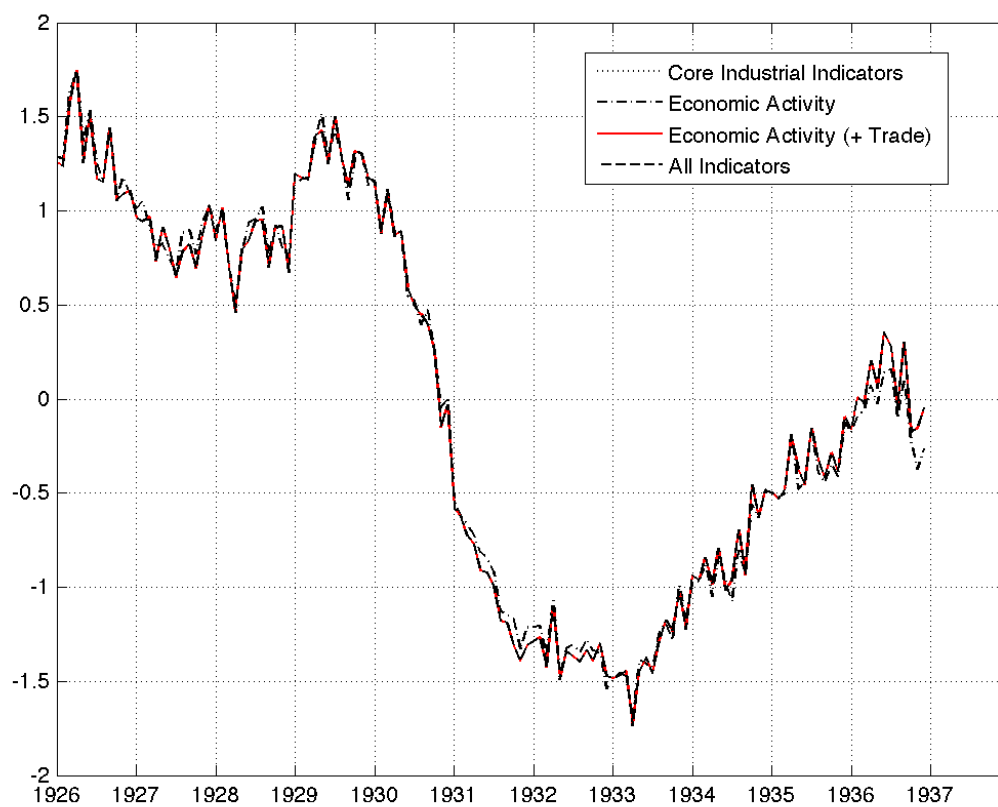


Figure 30: Indicators - New Zealand

## B.22. Norway

TABLE 25: DATA NORWAY

Variable Name	Unit	Source	Econ Activ- ity	Principal Component Coefficients Econ Activ- ity & Trade	Core Indica- tors	All
Production, Transport and Employment						
Paper and Cartons - Production	1000 t	STATI	0.32	0.31	0.36	0.25
Building Constructions	Number	STATI	0.22	0.17	0.23	0.15
Ship Construction - Started	1000 BRT	STATI	0.22	0.14	0.24	0.13
Ship Construction - Finished	1000 BRT	STATI	0.34	0.26	0.38	0.21
Railways - Transported Goods	1000 tons	STATI	0.37	0.33	0.40	0.28
Shipping - Ships Incoming	1000 NRT	STATI	0.26	0.22	0.30	0.18
Shipping - Sea Freight	Index (1923)	STATI	-0.05	-0.06	-0.07	-0.03
Unemployed	1000s	STATI	-0.40	-0.25	-0.42	-0.25
Unemployed Union Members	%	STATI	-0.34	-0.19	-0.37	-0.20
Bankruptcies	Number	STATI	-0.21	-0.08	-0.22	-0.10
Trade						
Imports - Total	m Crowns	STATI		0.13		0.10
Exports - Total	m Crowns	STATI		0.31		0.25
Imports - Coal	1000t	STATI		0.18		0.14
Imports - Machines	m Crowns	STATI		0.23		0.19
Imports - Textiles	m Crowns	STATI		0.12		0.09
Exports - Fish	1000 tons	STATI		0.16		0.12
Exports - Canned Fish	tons	STATI		0.03		0.03
Exports - Cellulose	1000 tons	STATI		0.30		0.25
Exports - Ground-wood Pulp	1000 tons	STATI		0.19		0.15
Exports - Paper	1000 tons	STATI		0.30		0.23
Prices						
Wholesale Prices - General	Index (1913)	STATI				
Money and Banking						
Central Bank - Bills of Exchange	m Crowns	STATI				0.06
Central Bank - Currency in Circulation	m Crowns	STATI				0.18
Central Bank - Deposits	m Crowns	STATI				-0.07
Clearings (15 Banks in Oslo)	m Crowns	STATI	-0.13	-0.03		-0.09
Bank Rate (Central Bank)	%	STATI				0.12
Commercial Banks - Bills of Exchange	m Crowns	STATI				-0.16
Commercial Banks - Advances	m Crowns	STATI				-0.19
Commercial Banks - Deposits	m Crowns	STATI				-0.24
Saving Banks - Deposits	m Crowns	STATI				-0.27
Bonds Return	% of face value	STATI	-0.36	-0.25		-0.28
Stocks - Turnover	1000 Crowns	STATI	0.02	0.04		0.04
Bonds - Turnover	1000 Crowns	STATI	-0.12	-0.08		-0.08
Number of Series			14	24	10	33
Variance Explained	%		30	28	37	26

## Comments

- *Paper and Cartons - Production, Building Constructions, Ship Construction - Started, Ship Construction - Finished*: First we convert the quarterly sums into quarterly averages, then employ a cubic spline interpolation to convert it into monthly data.
- *Wholesale Prices - General*: New composition from 1932 on, but no apparent change in the series.
- *Bonds Returns*: From 1934 on, new calculation method, but no apparent break in the series.

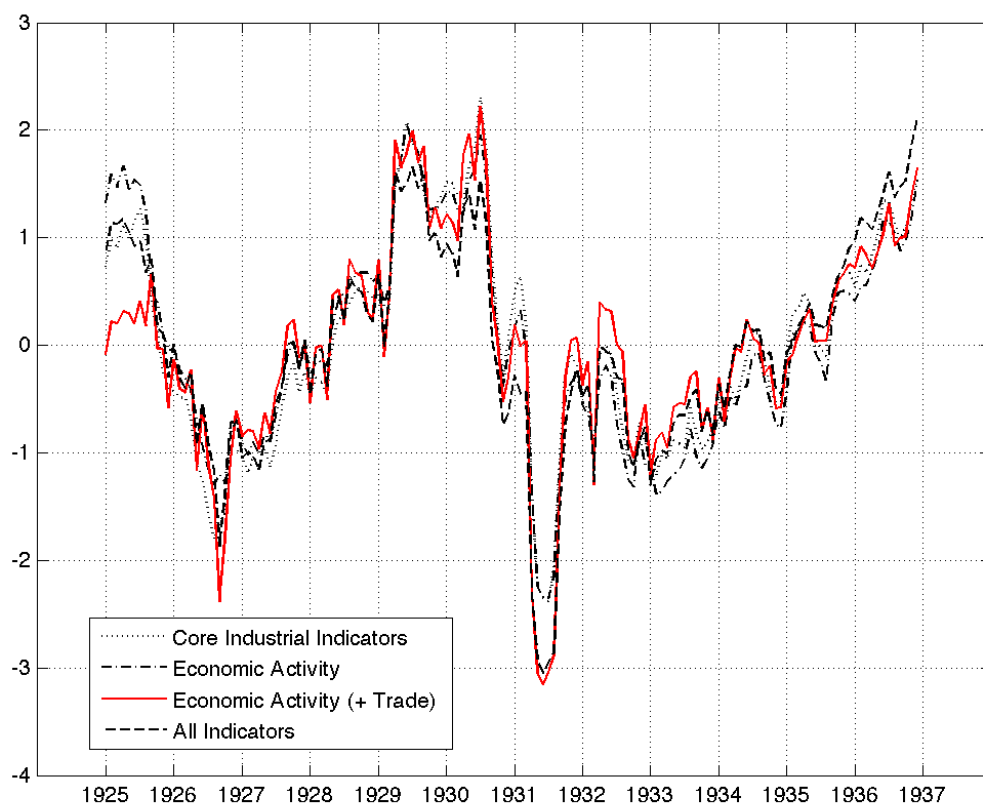


Figure 31: Indicators - Norway

## B.23. Poland

TABLE 26: DATA POLAND

Variable Name	Unit	Source	Principal Component Coefficients			
			Econ Activ- ity	Econ Activ- ity & Trade	Core Indica- tors	All
<i>Production, Transport and Employment</i>						
Industrial Production (Official)	Index	STATI				
Employment in Mining and Manufacturing	1000s	STATI	0.31	0.26	0.34	0.24
Capital Goods - Production	Index (1928)	STATI	0.32	0.26	0.35	0.24
Consumption Goods - Production	Index (1928)	STATI	0.27	0.23	0.29	0.21
Zinc - Production	Index (1928)	STATI	0.15	0.12	0.15	0.11
Metal and Maschine Industries - Production	Index (1928)	STATI	0.29	0.24	0.33	0.22
Chemicals - Production	Index (1928)	STATI	0.24	0.19	0.25	0.18
Textiles - Production	Index (1928)	STATI	0.24	0.21	0.26	0.19
Construction	Index (1928)	STATI	0.22	0.17	0.25	0.15
Coal - Production	1000 tons	STATI	0.15	0.12	0.19	0.09
Pig Iron - Production	1000 tons	STATI	0.24	0.19	0.26	0.17
Crude Steel - Production	1000 tons	STATI	0.24	0.20	0.26	0.18
Railways - Wagons	Index (1928)	STATI	0.24	0.19	0.27	0.16
Railways - Wagons above 15 tons	Waggons of 15 tons per day	STATI	0.24	0.19	0.27	0.16
Registered Unemployed	1000s	STATI	-0.15	-0.14	-0.17	-0.12
Nominal Wages	Index (1931)	STATI	0.07	0.06		0.07
Bankruptcies	Number	STATI	-0.07	-0.07	-0.09	-0.06
<i>Trade</i>						
Imports - Total	m Zloty	STATI		0.26		0.23
Exports - Total	m Zloty	STATI		-0.00		-0.01
Imports - Foodstuff	m Zloty	STATI		0.17		0.16
Imports - Raw Materials and Semi-Manufactured Goods	m Zloty	STATI		0.20		0.18
Imports - Wholly-manufactured Goods	m Zloty	STATI		0.23		0.21
Exports - Animals	m Zloty	STATI		0.06		0.06
Exports - Foodstuff	m Zloty	STATI		-0.10		-0.09
Exports - Raw Materials and Semi-Manufactured Goods	m Zloty	STATI		0.03		0.01
Exports - Wholly-manufactured Goods	m Zloty	STATI		0.10		0.09
Imports - Cotton	1000 tons	STATI		0.14		0.12
Imports - Wool	1000 tons	STATI		0.09		0.07
Imports - Machines	m Zloty	STATI		0.21		0.19
Exports - Pigs	1000s	STATI		0.09		0.09
Exports - Wheat	1000 tons	STATI		-0.10		-0.09
Exports Rye	1000 tons	STATI		-0.08		-0.07
Exports - Coal	1000 tons	STATI		0.04		0.03
Exports - Timber	1000 tons	STATI		0.02		0.01
<i>Prices</i>						
Wholesale Prices	Index (1928)	STATI				
Consumer Prices (All)	Index (1928)	STATI				
Consumer Prices - Food	Index (1928)	STATI				
<i>Money and Banking</i>						
Central Bank - Bills of Exchange and Advances	m Zloty	STATI				0.05
Central Bank - Currency	m Zloty	STATI				0.20
Central Bank - Government Deposits	m Zloty	STATI				0.13
Central Bank - Private Deposits	m Zloty	STATI				0.13
Clearings	m Zloty	STATI	0.15	0.12		0.12
Giro Clearings	m Zloty	STATI	0.20	0.16		0.15
Closed Bills of Exchanges	Number	STATI	0.23	0.19		0.18
Central Bank - Bank Rate	%	STATI				-0.15
Bank Discount (Bills of Exchange)	%	STATI	-0.07	-0.07		-0.06
Real Interest on Government Bonds	%	STATI				-0.20
Joint-Stock Banks - Bills of Exchanges	m Zloty	STATI				0.19
Joint-Stock Banks - Advances	m Zloty	STATI				0.06
Joint-Stock Banks - Deposits	m Zloty	STATI				0.12
Saving Banks - Deposits	m Zloty	STATI				0.02
Stock Market Index	Index (1928)	STATI	0.23	0.21		0.20
Number of Series			21	38	15	52
Variance Explained	%		41	32	48	31

## Comments

- *Employment in Mining and Manufacturing*: Two series have been merged. One is seasonally adjusted, the other one not. As all series, the merged series is seasonally adjusted and the algorithm adapts to the change of the series.
- *Nominal Wages*: Two indices have been linked via re-basing. Value for December 1936 was assumed to equal the one of November 1936.



- Import and export series of *Foodstuff, Raw Materials and Semi-Manufactured Goods, Wholly-manufactured Goods, and Animals*: Values for July-September 1936 were given as the sum and hence divided by 3.
- *Real Interest on Government Bonds*: Values for November and December 1936 were missing and assumed to take those of October 1936.
- Series of the *Joint-Stock Banks*: Values for January 1925 were missing and assumed to take those of February 1925.

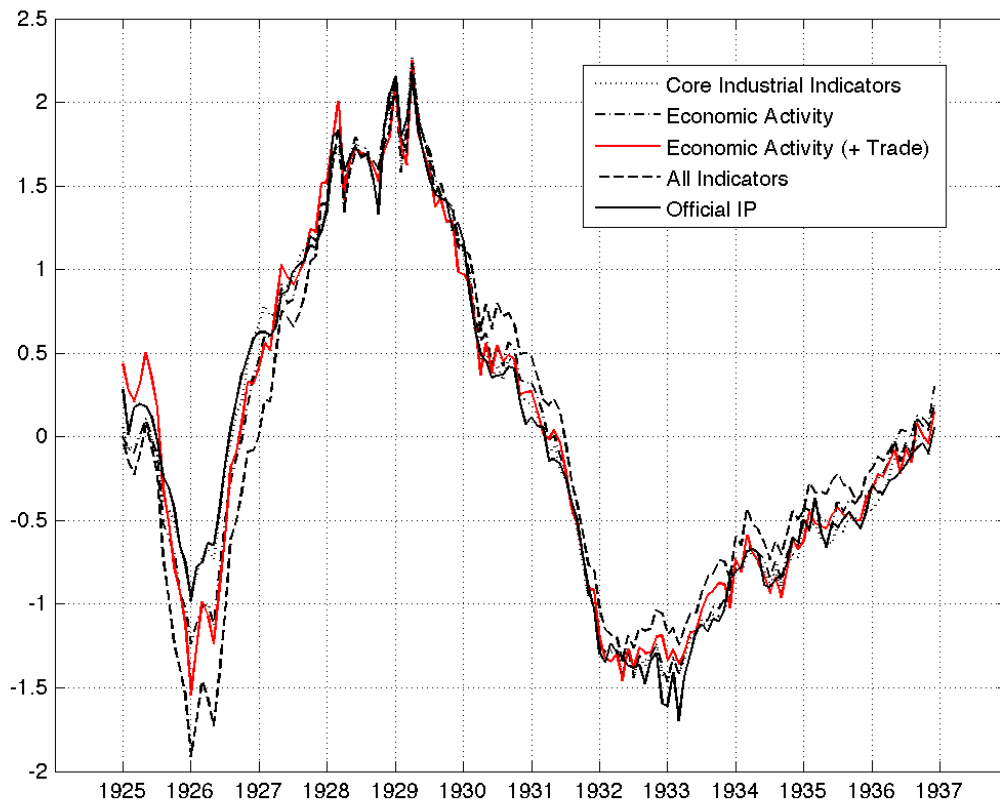


Figure 32: Indicators - Poland

## B.24. Romania

TABLE 27: DATA ROMANIA

Variable Name	Unit	Source	Econ Activ-ity	Principal Component Coefficients	Econ Activ-ity & Trade	Core Indica-tors	All
Production, Transport and Employment							
Oil Production	1000 tons	STATI	0.26	0.16	0.16	0.18	
Transported Goods (Railway)	1000 tons	STATI	0.38	0.32	0.38	0.32	
Lignite Production	1000 tons	STATI	0.25	0.23	0.18	0.20	
Gasoline Production	1000 tons	STATI	0.15	0.09	0.15	0.13	
Unemployment	1000s	STATI	-0.16	-0.23	-0.60	-0.23	
Unemployment - Seasonal Workers	1000s	STATI	-0.11	-0.17	-0.59	-0.18	
Bankruptcies	Number	STATI	0.17	0.09	-0.26	0.07	
Moratoria	Number	STATI	-0.23	-0.18	-0.05	-0.15	
Trade							
Imports	m Lei	STATI		0.26		0.26	
Exports	m Lei	STATI		0.19		0.20	
Exports - Cattle	1000s	STATI		0.33		0.33	
Exports - Corn	1000 tons	STATI		-0.15		-0.12	
Exports - Wood	1000 tons	STATI		0.32		0.31	
Exports - Gasoline	1000 tons	STATI		0.10		0.12	
Prices							
Wholesale Prices	Index (1935=100)	STATI					
Retail Prices	Index (1932/1934)	STATI				-0.11	
Money and Banking							
Gold Stock (Central Bank)	m Lei	STATI					
Currency (Central Bank)	m Lei	STATI					
Clearings (in Bukarest)	m Lei	STATI	0.35	0.28		0.29	
Bank Rate (Central Bank)	%	STATI					
Real Interest Rate Fixed-yield Investments	%	STATI	-0.47	-0.36		-0.36	
Stock Issues	m Lei	STATI	0.17	0.14		0.15	
Stock Market - Interest Rate of Fixed-yield Bonds	Index (1926)	STATI	0.40	0.29		0.28	
Stocks - Turnover	m Lei	STATI	-0.03	-0.08		-0.08	
Protested Bills of Exchange	m Lei	STATI	-0.23	-0.15		-0.18	
Number of Series			14	20	8	25	
Variance Explained	%		20	19	27	18	

### Comments

- *Retail Prices*: two series were linked.
- *Wholesale Prices*: Three series were linked. The first two refer two wholesale prices for petroleum, wheat, and wood, whereas the third is more general, but was only available for 1935 and 1936.
- *Clearings*: From May 1931 on, clearings declined rapidly. However, there are no comments on the series that indicate that it is not valid anymore.
- *Real Interest Rate Fixed-yield Investments*: From 1934 on, the series does not take foreign treasury bills into account, which lowers its value by around 2 %.
- *Gold Stock*: Values for November and December 1936 have been converted to the old parity: 0.009 vs the new one: 0.00625174 (Statistisches Reichsamt, 1937, p. 98).

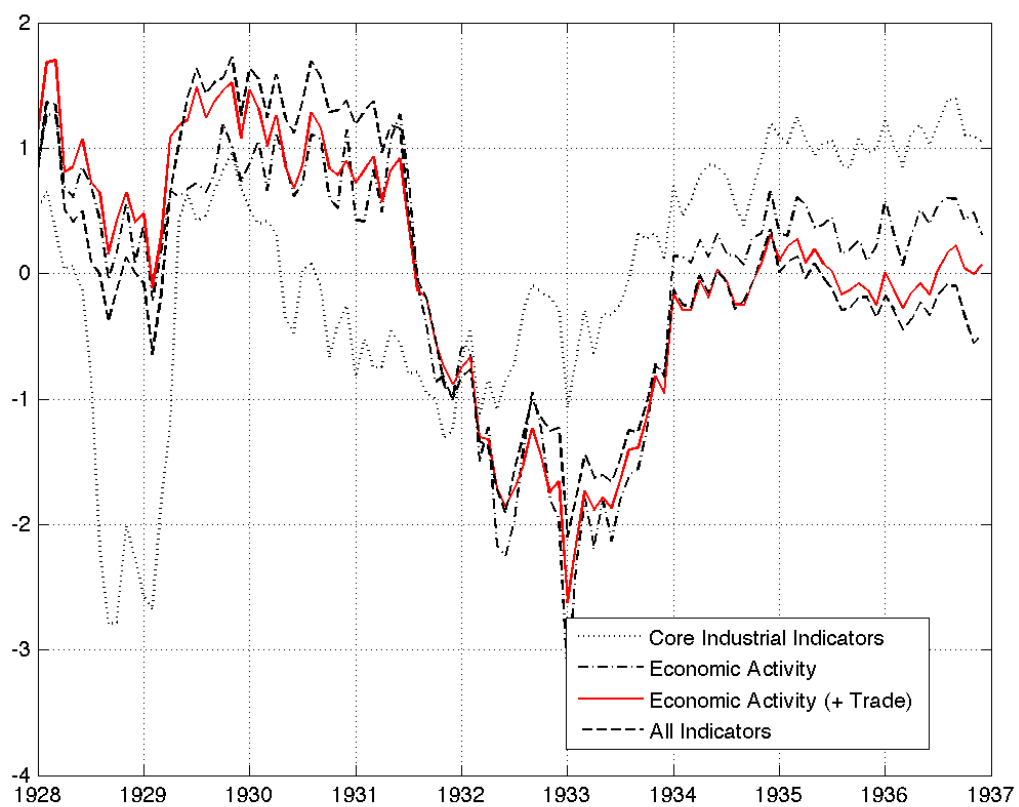


Figure 33: Indicators - Romania

## B.25. South Africa

TABLE 28: DATA SOUTH AFRICA

Variable Name	Unit	Source	Econ Activ- ity	Principal Component Coefficients Econ Activ- ity & Trade	Core Indica- tors	All
<i>Production, Transport and Employment</i>						
Coal Production	1000 tons	STATI	0.32	0.31	0.34	0.18
Gold Production	t	STATI	-0.27	-0.31	-0.22	-0.28
Employed Europeans in Mining	1000s	STATI	0.37	0.30	0.40	0.18
Employed Non-Europeans in Mining	1000s	STATI	0.44	0.35	0.47	0.21
Employed Europeans in Gold Mining	1000s	STATI	0.40	0.32	0.41	0.17
Employed Non-Europeans in Gold Mining	1000s	STATI	0.36	0.25	0.40	0.10
Transported Goods (Shipping - Incoming)	1000 NRT	STATI	0.07	0.06	0.07	0.02
Unemployed Europeans (Job Wanted Advertisements)	Anzahl	STATI	-0.32	-0.30	-0.34	-0.17
<i>Trade</i>						
Imports - Total	1000 Pounds	STATI		0.38		0.29
Exports - Wool	tons	STATI		-0.26		-0.19
<i>Prices</i>						
Wholesale Prices	Index (1910=100)	STATI				
Consumer Prices	Index (1910)	STATI				
Foodstuff Prices (Consumer)	Index (1910)	STATI				
<i>Money and Banking</i>						
Gold Stock (Central Bank)	1000 Pounds	STATI				0.24
Foreign Exchange (Central Bank)	1000 Pounds	STATI				0.25
Bills of Exchange and Advances (Central Bank)	1000 Pounds	STATI				-0.23
Currency in Circulation (Central Bank)	1000 Pounds	STATI				0.25
Clearings	m Pounds	STATI	-0.03	0.07		0.12
Bank Rate (Central Bank)	%	STATI				-0.27
Private Banking - Bills of Exchange and Advances	m Pounds	STATI				-0.06
Private Banking - Demand Deposits	m Pounds	STATI				0.32
Private Banking - Long-term Deposits	m Pounds	STATI				0.03
Land and Agricultural Bank - Advances	1000 Pounds	STATI				-0.30
Saving Banks - Deposits	1000 Pounds	STATI				0.16
Stock Market (6 Gold Mining Stocks in London)	Index (1 Jan. 1923)	STATI	0.32	0.35		0.28
Number of Series			10	12	8	25
Variance Explained	%		31	31	35	30

## Comments

- *Unemployed Europeans*: the value for November 1931 was missing and linearly interpolated. From July 1934 on, women are included. There is however no structural break in the series at that point.
- *Stock Market*: the value for December 1936 was missing and assumed to take the same value as the one for November 1936.
- *Wholesale Prices*: Quarterly series was converted into monthly frequency by employing a cubic spline.

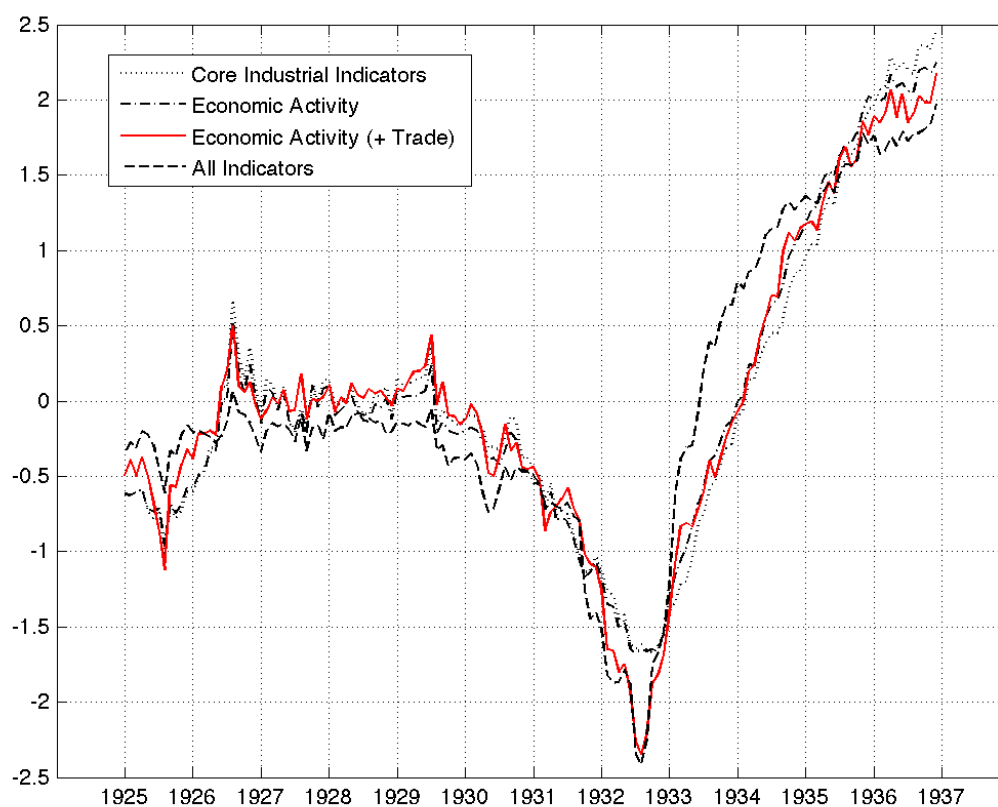


Figure 34: Indicators - South Africa

## B.26. Spain

TABLE 29: DATA SPAIN

Variable Name	Unit	Source	Econ Activ- ity	Principal Component Coefficients Econ Activ- ity & Trade	Core Indica- tors	All
<i>Production, Transport and Employment</i>						
Coal and Lignite - Production	1000 tons	IAES	0.08	0.08	0.19	0.06
Iron Ore - Production	1000 tons	IAES	0.43	0.43	0.46	0.42
Cooper - Production	1000 tons	IAES	0.24	0.24	0.29	0.23
Lead - Production	1000 tons	IAES	-0.00	-0.00	0.05	-0.00
Pig Iron - Production	1000 tons	IAES	0.41	0.41	0.54	0.38
Steel - Production	1000 tons	IAES	0.41	0.41	0.54	0.39
Woollen Yarn - Production	tons	IAES	-0.15	-0.15	-0.29	-0.15
Cotton Yarn - Production	tons	IAES	0.02	0.02	-0.01	0.03
<i>Trade</i>						
<i>Prices</i>						
Wholesale Prices	Index (1913)	STATI				
Food Prices	Index (1913)	STATI				
Prices of Industrial Inputs	Index (1913)	STATI				
Consumer Prices (Madrid)	Index (1914)	STATI				
<i>Money and Banking</i>						
Currency in Circulation (Central Bank)	m Pesetas	IAES				-0.28
Protested Bills of Exchange	Number	IAES	-0.19	-0.19		-0.25
Clearings (Madrid)	m Pesetas	IAES	0.17	0.17		0.13
Clearings (Barcelona)	m Pesetas	IAES	0.24	0.24		0.20
Barcelona Stock Exchange - Fixed-interest Security Prices (18 Securities)	Index(1925)	IAES	0.33	0.33		0.31
Barcelona Stock exchange - 22 Stocks	Index(1925)	IAES	0.40	0.40		0.39
Number of Series			13	13	8	18
Variance Explained	%		25	25	30	25

### Comments

- Mining Series (except for *Coal and Lignite*): first value of 1925 was quarterly and thus simply divided by 3.
- *Prices of Industrial Inputs* and *Food Prices*: Value for December of 1935 was assumed to take the one of November 1935.
- *Clearings (Madrid)*: series exhibits stark (positive) break in the first quarter of 1927. This is most likely due to speculation in favour of the Peseta (see IAES - events), which led to the influx of money.

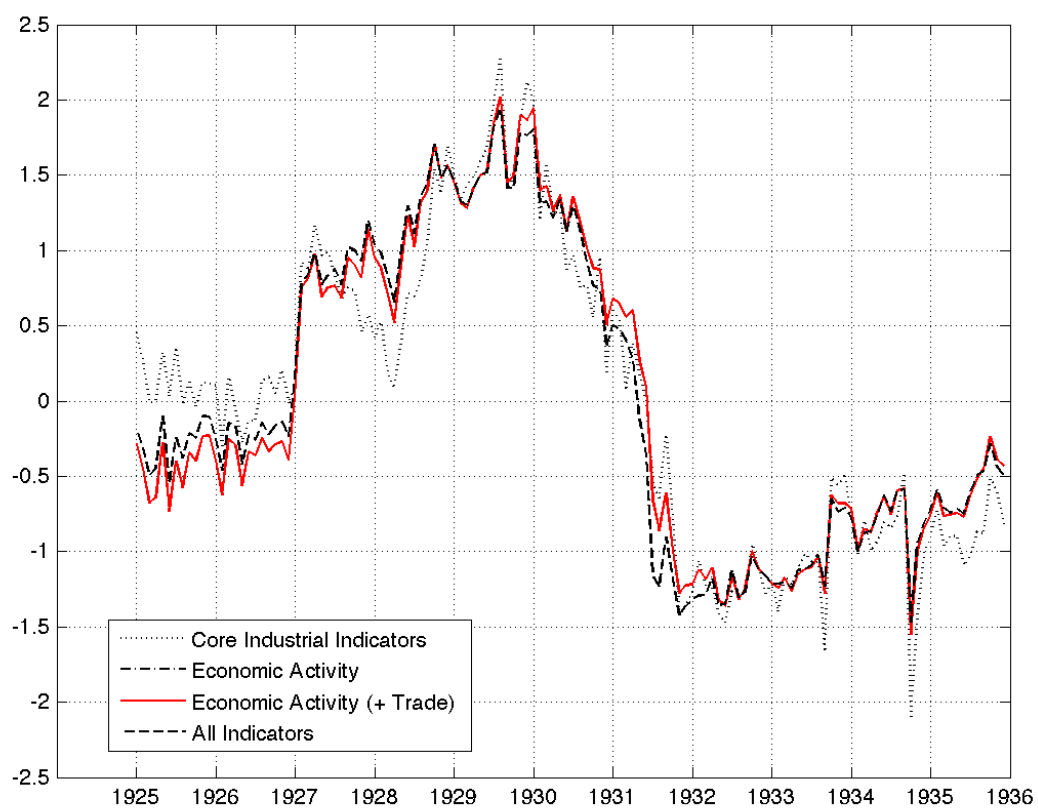


Figure 35: Indicators - Spain

## B.27. Sweden

TABLE 30: DATA SWEDEN

Variable Name	Unit	Source	Principal Component Coefficients			
			Econ Activ- ity	Econ Activ- ity & Trade	Core Indica- tors	All
<i>Production, Transport and Employment</i>						
Industrial Production (Official)	Index (1929)	STATI				
Pig Iron - Production	1000 tons	STATI	0.36	0.27	0.38	0.28
Raw Steel - Production	1000 tons	STATI	0.33	0.26	0.34	0.23
Roller ms - Production	1000 tons	STATI	0.33	0.25	0.32	0.22
Railways - Transported Goods	1000 tons	STATI	0.25	0.30	0.28	0.25
Incoming Ships	1000 NRT	STATI	0.13	0.21	0.15	0.17
Individuals on Benefits	Number	STATI	-0.31	-0.19	-0.33	-0.21
Unemployed Union Members	Number	STATI	-0.40	-0.29	-0.41	-0.30
Unemployed Union Members	%	STATI	-0.41	-0.31	-0.43	-0.31
Bankruptcies	number	STATI	-0.26	-0.14	-0.26	-0.19
<i>Trade</i>						
Imports - Total	m Crowns	STATI		0.24		0.22
Exports - Total	m Crowns	STATI		0.33		0.27
Imports - Coal and Coke	1000 tons	STATI		0.21		0.16
Exports - Iron Ore	1000 tons	STATI		0.28		0.23
Exports - Timber	1000 cbm	STATI		0.20		0.13
Exports - Cellulose	1000 tons	STATI		0.19		0.14
Exports - Paper	1000 tons	STATI		0.19		0.12
<i>Prices</i>						
Wholesale Prices - General	1913=100	STATI				
Wholesale Prices - Raw Materials	1913=100	STATI				
Wholesale Prices - Semi-processed Goods	1913=100	STATI				
Wholesale Prices - Fully-manufactured goods	1913=100	STATI				
Wholesale Prices - Capital Goods	1913=100	STATI				
Wholesale Prices - Consumption Goods	1913=100	STATI				
<i>Money and Banking</i>						
Gold Stock (Central Bank)	m Crowns	STATI				0.22
Foreign Exchange (Central Bank)	m Crowns	STATI				0.17
Bills of Exchange (Central Bank)	m Crowns	STATI				-0.08
Deposits (Central Bank)	m Crowns	STATI				0.13
Currency in Circulation (Central Bank)	m Crowns	STATI				0.12
Clearings	m Crowns	STATI				0.18
Bank Rate (Central Bank)	%	STATI				-0.06
Real Interest on Government Bonds	%	STATI				-0.17
Bills of Exchange (Commercial Banking)	m Crowns	STATI	-0.22	-0.12		-0.09
Private Debt (Commercial Banks)	m Crowns	STATI	-0.07	-0.06		-0.05
Domestic Deposits (Commercial Banks)	m Crowns	STATI				-0.04
Stock Emissions	m Crowns	STATI	0.03	-0.03		0.01
Stock Turnover	m Crowns	STATI	0.14	0.07		0.11
Protested Bills of Exchange	1000 Crowns	STATI	-0.10	-0.09		-0.09
Number of Series			14	21	9	37
Variance Explained	%		33	29	47	23

## Comments

- *Industrial Production (Official)*: Two series have been linked.
- *Gold Stock*: From March 1933: with gold abroad (earmarked gold).
- *Deposits (Central Bank)*: Strong increase in 1933, possibly due to change in accounting.
- *Protested Bills of Exchange*: Big outlier in May 1932.



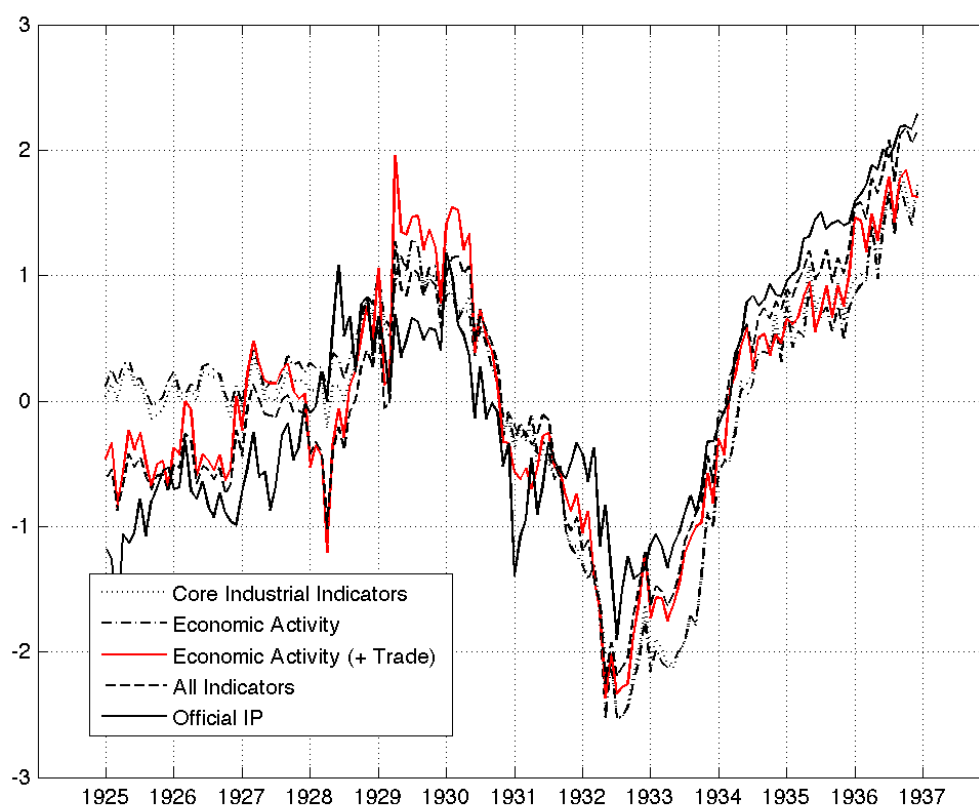


Figure 36: Indicators - Sweden

## B.28. Switzerland

TABLE 31: DATA SWITZERLAND

Variable Name	Unit	Source	Econ Activ- ity	Principal Component Coefficients Econ Activ- ity & Trade	Core Indica- tors	All
<i>Production, Transport and Employment</i>						
Production of Watches	1000s	STATI	0.08	0.09		0.09
Transported Persons (Railway)	1000s	STATI	0.21	0.14		0.12
Transported Goods (Railway)	1000 tons	STATI	0.29	0.29		0.18
Jobseekers	Number	STATI	-0.46	-0.36		-0.26
Bankruptcies	Number	STATI	-0.22	-0.14		-0.10
<i>Trade</i>						
Imports	m Franks	STATI		0.34		0.17
Exports	m Franks	STATI		0.34		0.24
Imports - Raw and Semi-processed Goods	m Franks	STATI		0.25		0.13
Imports- Processed Goods	m Franks	STATI		0.30		0.16
Exports - Raw Material	m Franks	STATI		0.15		0.08
Exports - Processed Goods	m Franks	STATI		0.33		0.25
Imports - Coal	1000 tons	STATI		0.12		0.05
<i>Prices</i>						
Wholesale Prices	Index (July 1932/1934 = 100)	STATI				
Consumer Prices (all)	Index (1914)	STATI				
Consumer Prices (food)	Index (1914)	STATI				
Consumer Prices (textiles)	Index (1914)	STATI				
<i>Money and Banking</i>						
Gold Stock (Central Bank)	m Franks	STATI				-0.25
Currency in Circulation (Central Bank)	m Franks	STATI				-0.23
Deposits (Central Bank)	m Franks	STATI				-0.29
Giro Transfers (Central Bank)	m Franks	STATI				0.22
Clearings	m Franks	STATI	0.45	0.31		0.21
Clearings - Giro Checks	m Franks	STATI	0.10	0.07		-0.02
Bank Rate (Central Bank)	%	STATI				-0.04
Market Rate	m Franks	STATI	-0.40	-0.19		-0.13
Kantonalbanken - Bills of Exchanges and Advances	m Franks	STATI				-0.13
Kantonalbanken - Stocks on Balance Sheet	m Franks	STATI				-0.25
Kantonalbanken - Mortgages	m Franks	STATI				-0.26
Kantonalbanken - Savings	m Franks	STATI				-0.28
Kantonalbanken - Advances on Current Account	m Franks	STATI				-0.17
Kantonalbanken - Obligations	%	STATI				-0.22
Stock Yields	Number	STATI	0.48	0.29		0.24
Number of Series			9	16	5	31
Variance Explained	%		31	30		32

### Comments

- *Gold Stock* and *Deposits*: Values for October–December 1936 have been converted to the new parity.
- *Stock Yields*: Change of the composition of the series is reported for 1934. However, no structural break appears.
- *Kantonalbanken* - all series: new accounting principles from 1932 on, which does however, not lead to the inconsistency of the series.
- *Wholesale Prices*: Three indices have been chained together via re-basing; for 1925–1926: League of Nations (1926, p. 172), for 1926–1934: Statistisches Reichsamt (1936), and for 1932–1936: Statistisches Reichsamt (1937).

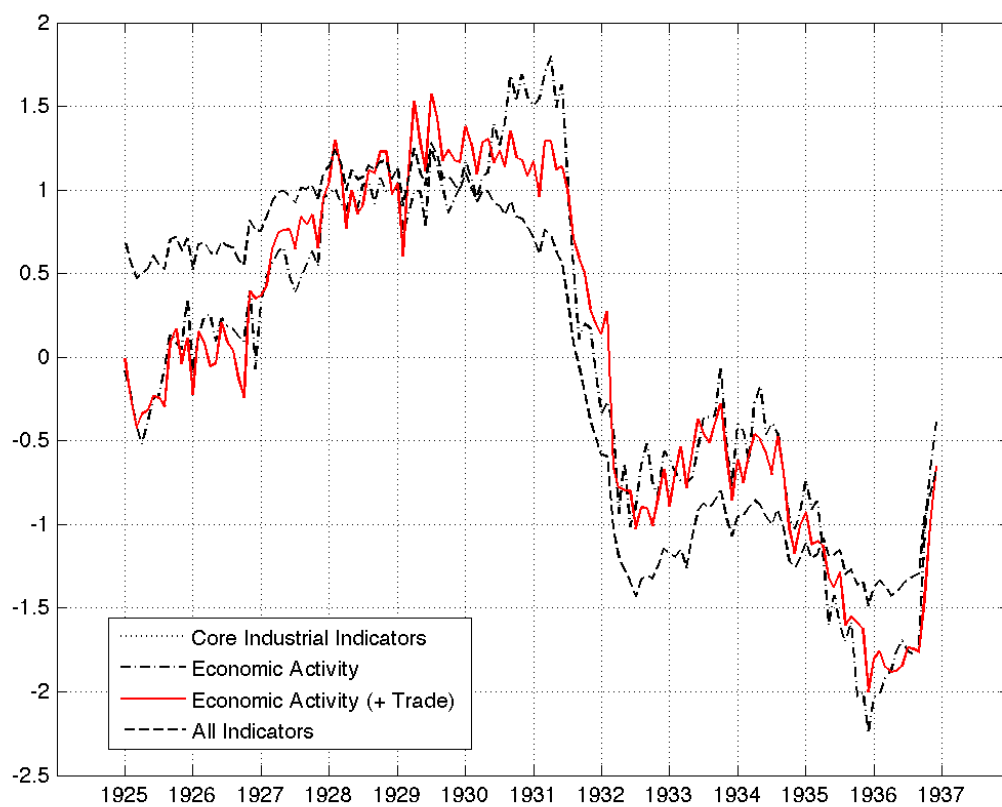


Figure 37: Indicators - Switzerland

## B.29. United States

TABLE 32: DATA UNITED STATES

Variable Name	Unit	Source	Econ Activity	Principal Component Coefficients Econ Activity & Trade	Core Indica- tors	All
Production, Transport and Employment						
Industrial Production (Official)	Index (1932/1934)	STATI				
Employment - Machinery Manufacturing	Index (1932/1934)	STATI	0.17	0.17	0.23	0.17
Employment - Textile Manufacturing	Index (1932/1934)	STATI	0.20	0.18	0.26	0.17
Production - Mining	Index (1932/1934)	STATI	0.16	0.15	0.23	0.15
p- Capital Goods	Index (1932/1934)	STATI	0.19	0.18	0.28	0.17
p- Consumption Goods	Index (1932/1934)	STATI	0.17	0.15	0.23	0.14
p- Foodstuffs	Index (1932/1934)	STATI	0.07	0.06	0.10	0.06
p- Petroleum Refineries	Index (1932/1934)	STATI	0.15	0.15	0.22	0.14
p- Flat Glas	Index (1932/1933)	STATI	0.11	0.10	0.16	0.10
p-Products based on Caoutchouc	Index (1932/1934)	STATI	0.10	0.10	0.17	0.09
p- Tires	Index (1932/1934)	STATI	0.10	0.09	0.17	0.09
Production - Textiles	Index (1932/1934)	STATI	0.12	0.11	0.16	0.10
p- Shoes	Index (1932/1934)	STATI	0.12	0.11	0.17	0.10
p- Electricity	m kwh	STATI	0.20	0.19	0.26	0.18
Construction - Contracts	m Dollar	STATI	0.08	0.06		0.06
Turnover - Warehouses	Index (1932/1934)	STATI	0.04	0.03		0.02
Stocks - Warehouses	Index (1932/1934)	STATI	-0.03	-0.03		-0.03
Stocks - Raw Materials (total)	Index (1923/1925)	STATI	0.06	0.06	0.10	0.06
Stocks - Raw Materials (Foodstuffs)	Index (1923/1925)	STATI	0.14	0.13	0.20	0.12
Stocks - Raw Materials (Metals)	Index (1923/1925)	STATI	-0.00	-0.01	-0.02	-0.00
Stocks - Raw Materials (Textiles)	Index (1923/1925)	STATI	-0.12	-0.11	-0.16	-0.10
Stocks - Fully-manufactured Goods (All)	Index (1923/1925)	STATI	0.12	0.10	0.12	0.11
Stocks - Fully-manufactured Goods (Foodstuffs)	Index (1923/1925)	STATI	0.12	0.11	0.17	0.11
Stocks - Fully-manufactured Goods (Iron and Steel Products)	Index (1923/1925)	STATI	0.14	0.11	0.14	0.11
Stocks - Fully-manufactured Goods (Textiles)	Index (1923/1925)	STATI	0.13	0.11	0.17	0.12
Stocks - Fully-manufactured Goods (Caoutchouc-based Products)	Index (1923/1925)	STATI	0.11	0.11	0.15	0.11
Stocks - Wheats	1000 tons	STATI	0.04	0.04	0.06	0.03
Stocks - Wheat Flower	1000 tons	STATI	0.07	0.06	0.09	0.06
Stocks - Cotton	1000 Bags	STATI	-0.12	-0.11	-0.17	-0.10
Stocks - Silk	1000 Bags	STATI	0.01	0.02	0.03	0.02
Stocks - Crude Oil	1000 tons	STATI	0.10	0.09	0.11	0.09
Railways - Transported Goods (Average Waggons per Week)	1000s	STATI	0.21	0.19	0.27	0.18
Railways - Cargo	Index (1932/1934)	STATI	0.14	0.13	0.18	0.13
Bankruptcies (Number)	Number	STATI	-0.18	-0.16	-0.22	-0.15
Bankruptcies (Liabilities/Volume)	m Dollar	STATI	-0.18	-0.16		-0.15
Working Hours (9000 Firms)	Index (1932/1933)	STATI	0.13	0.12	0.19	0.11
Industrial Workers - Average Weekly Salary	Dollar	STATI	0.11	0.09		0.08
Wage Bill - All Industries (excluding Mining)	Index (1923/1925)	STATI	0.19	0.17		0.17
Trade						
Imports - Total	m Dollar	STATI		0.15		0.14
Exports - Total	m Dollar	STATI		0.14		0.13
Imports - Food and Beverages	m Dollar	STATI		0.05		0.05
Imports - Raw and Semi-processed Goods	m Dollar	STATI		0.14		0.14
Imports - Processed Goods	m Dollar	STATI		0.13		0.12
Exports - Food and Beverages	m Dollar	STATI		0.04		0.04
Exports - Raw and Semi-processed Goods	m Dollar	STATI		0.09		0.08
Exports - Processed Goods	m Dollar	STATI		0.15		0.14
Exports - Capital Goods	m Dollar	STATI		0.12		0.11
Exports - Consumption Goods	m Dollar	STATI		0.15		0.14
Imports - Caoutchouc	1000 tons	STATI		0.09		0.09
Imports - Wool & Animal Hair	tons	STATI		0.12		0.11
Imports - Raw Silk	1000 tons	STATI		0.12		0.11
Imports - Copper	tons	STATI		0.08		0.08
Imports - Paper (Newspaper)	1000 tons	STATI		0.12		0.12
Exports - Wheat and Flour	1000 tons	STATI		0.01		0.01
Exports - Raw Cotton	1000 bags	STATI		0.01		0.00
Exports - Timber	1000 cbm	STATI		0.10		0.09
Exports - Refined Copper	1000 tons	STATI		0.04		0.05
Exports - Cars	1000s	STATI		0.08		0.08
Prices						
Wholesale Prices - General (Fisher Index)	Index (1926)	STATI				
Wholesale Prices - Agricultural Products	Index (1926)	STATI				
Wholesale Prices - Foodstuffs	Index (1926)	STATI				
Wholesale Prices - Industrial Goods	Index (1926)	STATI				
Wholesale Prices - Raw Materials	Index (1926)	STATI				
Wholesale Prices - semi-processed Goods	Index (1926)	STATI				
Wholesale Prices - Fully-manufactured Goods	Index (1926)	STATI				
Wholesale Prices - Wheat	Dollar per bushel	STATI				
Wholesale Prices - Cacao	Cents per lb	STATI				
Wholesale Prices - Sugar	Cents per lb	STATI				
Wholesale Prices - Lard	Dollar per 100 lbs	STATI				
Wholesale Prices - Cotton	Cents per lb	STATI				
Wholesale Prices - Ox Skins	Cents per lb	STATI				
Wholesale Prices - Petroleum	Dollar per 42 Gallons	STATI				
Wholesale Prices - Petroleum (for lamps)	Cents per Gallon	STATI				
Wholesale Prices - Steel	Cents per lb	STATI				
Wholesale Prices - Copper	Cents per lb	STATI				

TABLE 33: DATA UNITED STATES (CONTINUED)

Variable Name	Unit	Source	Econ Activity	Principal Component Coefficients Econ Activity & Trade	Core Indica- tors	All
Prices (continued)						
Agricultural Prices - General	Index (1909(8)/1914(7))	STATI				
Agricultural Prices - Grain	Index (1909(8)/1914(7))	STATI				
Agricultural Prices - Dairy Products	Index (1909(8)/1914(7))	STATI				
Agricultural Prices - Meat	Index (1909(8)/1914(7))	STATI				
Agricultural Prices - Cotton & Cotton Seed	Index (1909(8)/1914(7))	STATI				
Prices for Farm Supplies (General)	Index (1909(8)/1914(7))	STATI				
Purchasing Power of Agricultural Products	Index (1923)	STATI				
Consumer Prices - General	Index (1923)	STATI				
Consumer Prices - Foodstuffs	Index (1923)	STATI				
Consumer Prices - Property	Index (1923)	STATI				
Consumer Prices - Clothes	Index (1923)	STATI				
Money and Banking						
Lending (total)	Index (1932/1934)	STATI				-0.07
Central Bank - Lending (discounted Bills of Exchange)	Index (1932/1934)	STATI				-0.02
Central Bank - Lending (Acquired Bills of Exchange)	m Dollar	STATI				-0.02
Central Bank - Lending (Government Bonds)	m Dollar	STATI				-0.05
Central Bank - Currency in Circulation	m Dollar	STATI				-0.06
Central Bank - Total Deposits	m Dollar	STATI				0.05
Central Bank - Bank Rate	%	STATI				0.01
Cash in Circulation	m Dollar	STATI				-0.09
Clearings - Direct Debit (New York)	m Dollar	STATI	0.11	0.12		0.11
Clearings - Direct Debit (outside of New York)	m Dollar	STATI	0.11	0.11		0.10
Interest Rates - Bankers' Acceptances	%	STATI	0.00	0.03		0.02
Interest Rates - Commercial Bills	%	STATI	-0.05	-0.02		-0.02
Interest Rates - Call Money (daily)	%	STATI	-0.01	0.03		0.02
Interest Rates - Time Deposits	%	STATI	0.03	0.05		0.04
Interest Rates - Overdraft Interest Rate (New York)	%	STATI	-0.11	-0.07		-0.08
Interest Rates - Overdraft Interest Rate (27 Cities)	%	STATI	-0.14	-0.11		-0.12
Real Interest Rate - 60 Bonds (Industrial, Railways, Public Utilities, Municipal)	%	STATI	-0.14	-0.10		-0.11
Real Interest Rate - 15 Industrial Bonds	%	STATI	-0.16	-0.12		-0.13
Real Interest Rate - 15 Railway Bonds	%	STATI	-0.16	-0.12		-0.12
Real Interest Rate - 15 Public Utility Bonds	%	STATI	-0.11	-0.07		-0.08
Real Interest Rate - 15 Municipal Bonds	%	STATI	-0.03	-0.01		-0.01
Commercial Banks (of the Federal Reserve System) - Cash	Index (1932/1933)	STATI				-0.08
Commercial Banks (of the Federal Reserve System) - Assets with the Federal Reserve	m Dollar	STATI				-0.04
Commercial Banks (of the Federal Reserve System) - Advances and Securities	b Dollar	STATI				-0.06
Commercial Banks (of the Federal Reserve System) - Securities (incl. Government Bonds)	m Dollar	STATI				-0.10
Commercial Banks (of the Federal Reserve System) - Net Sight Deposits	b Dollar	STATI				-0.04
Commercial Banks (of the Federal Reserve System) - Time Deposits	b Dollar	STATI				-0.03
Commercial Banks (of the Federal Reserve System) - Debt with Reserve Banks	m Dollar	STATI				-0.02
Emissions - New Capital (total, excluding Conversions)	m Dollar	STATI	0.10	0.10		0.10
Emissions - Stocks	m Dollar	STATI	0.08	0.09		0.08
Emissions - Bonds	m Dollar	STATI	0.05	0.03		0.03
Emissions - Bonds (Private)	m Dollar	STATI	0.03	0.02		0.02
Stock Prices - General	Index (1926)	STATI	0.20	0.18		0.17
Stock Prices - 347 Industrial Stocks	Index (1926)	STATI	0.20	0.18		0.17
Stock Prices - Railways Stocks	Index (1932/1934)	STATI	0.19	0.16		0.16
Stock Prices - 40 Public Utility Stocks	Index (1932/1934)	STATI	0.16	0.14		0.14
Bond Quotations - Government Bonds	Index (1932/1934)	STATI	-0.14	-0.13		-0.14
Bond Quotations - 40 Prime Bonds	Index (1932/1935)	STATI	0.13	0.09		0.09
Bond Quotations - 10 Industrial Bonds	Index (Face Value = 100)	STATI	0.13	0.09		0.09
Turnover Stocks (Number)	m	STATI	0.10	0.09		0.08
Turnover Bonds	m Dollar (Face Value)	STATI	-0.00	-0.00		-0.00
Number of Series			63	83	31	127
Variance Explained	%		29	27	35	24

## Comments

- For the following indicators, two series have been linked: *Industrial Production (Official)*, *Employment - Machinery Manufacturing*, *Employment - Textile Manufacturing*, *Production - Mining Production - Foodstuffs*, *Production - Petroleum Refineries*, *Production - Flat Glas*, *Production - Products based on Caoutchouc*, *Production - Tires*, *Production - Textiles*, *Production - Shoes Turnover - Warehouses*, *Stocks - Warehouses*, *Railways - Cargo Working Hours (9000 Firms)*, *Central Bank - Lending (total)*, *Central Bank - Lending (discounted Bills of Exchange)*, *Central Bank - Lending (Acquired Bills of Exchange)*, *Central Bank - Lending (Government Bonds)*, *Central Bank - Total Deposits*, *Stock Prices - Railways Stocks*, *Stock Prices - 40 Public Utility Stocks*, *Bond Quotations - Government Bonds*, *Bond Quotations - 40 Prime Bonds*.

- *Stocks - Fully-manufactured Goods (Iron and Steel Products) & Stocks - Fully-manufactured Goods (Textiles)*: Values for November & December 1936 are assumed to take those of October 1936.
- *Stocks - Wheat Flower*: Values for October, November & December 1936 are assumed to take those of September 1936.
- *Wholesale Prices - Petroleum (for lamps)*: Value for December 1935 was assumed to take the one of November 1935.
- *Consumer Prices - General, Consumer Prices - Foodstuffs, Consumer Prices - Property & Consumer Prices - Clothes* : Slightly different numbers in the two publications, the latter were assumed to be correct.
- *Indicators of Commercial Banks (of the Federal Reserve System)*: Series comprises 101 Cities until December 1931, 90 thereafter. Series have been linked via indexing. A very small break occurs in some series.
- *Turnover Bonds*: There is a strong increase in 1936, but it does not seem to be a mis-recording of data.

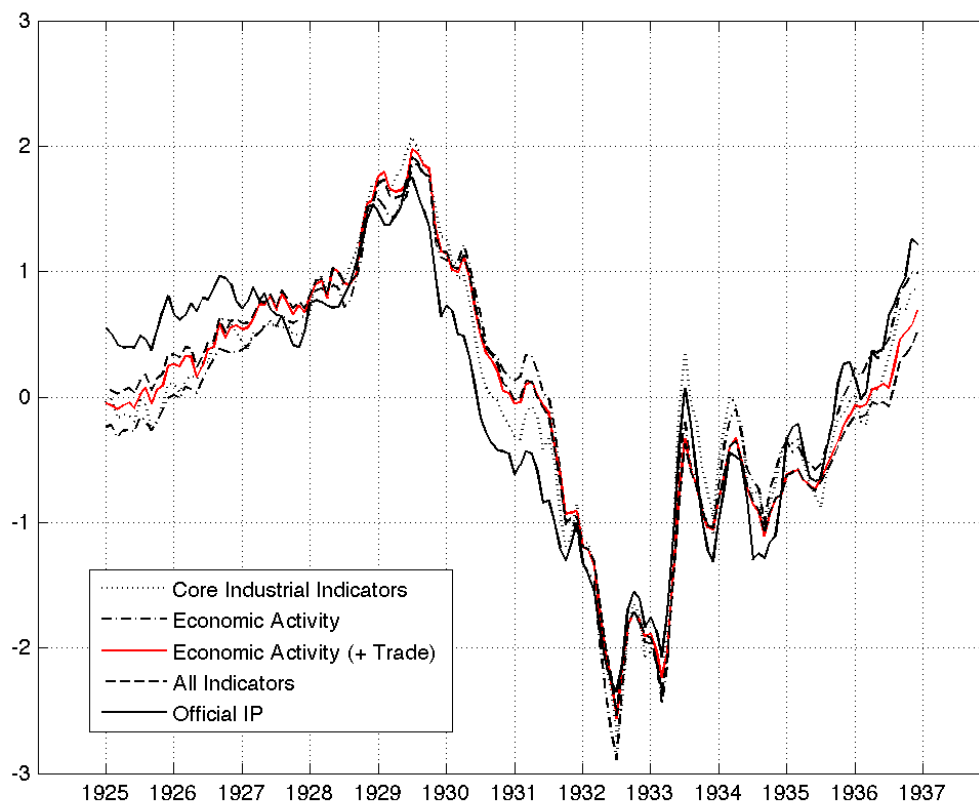


Figure 38: Indicators - United States

### B.30. Yugoslavia

TABLE 34: DATA YUGOSLAVIA

Variable Name	Unit	Source	Econ Activ- ity	Principal Component Coefficients		
				Econ Activ- ity & Trade	Core Indica- tors	All
<i>Production, Transport and Employment</i>						
Coal Production	1000 tons	STATI		0.20		0.08
Railways - Transported Goods	1000s	STATI		0.33		0.17
Unemployment	Number	STATI		-0.38		-0.30
Industrial Employment	1000s	STATI		0.40		0.32
Bankruptcies	Number	STATI		-0.20		-0.22
<i>Trade</i>						
Total Imports	m Dinar	STATI		0.47		0.37
Total Exports	m Dinar	STATI		0.42		0.29
<i>Prices</i>						
Wholesale Prices - General	Index (1926)	STATI				
Wholesale Prices - Minerals	Index (1926)	STATI				
Wholesale Prices - Industry	Index (1926)	STATI				
Wholesale Prices - Imports	Index (1926)	STATI				
Wholesale Prices - Exports	Index (1926)	STATI				
Wholesale Prices - Crops	Index (1926)	STATI				
Wholesale Prices - Beef	Index (1926)	STATI				
<i>Money and Banking</i>						
Bills of Exchange and Advances (Central Bank)	m Dinar	STATI				-0.40
Currency in Circulation (Central Bank)	m Dinar	STATI				-0.15
Private Deposits (Central Bank)	m Dinar	STATI				0.24
Clearings - Giro Cheques	m Dinar	STATI		0.34		0.27
Bank Rate (Central Bank)	%	STATI				-0.26
Value of the 7 % Government Bond from 1921	Index (1926)	STATI				0.34
Number of Series			6	8	5	20
Variance Explained	%			40		39

### Comments

- *Industrial Employment*: Value for December 1936 was assumed to take the same value as in November 1936.

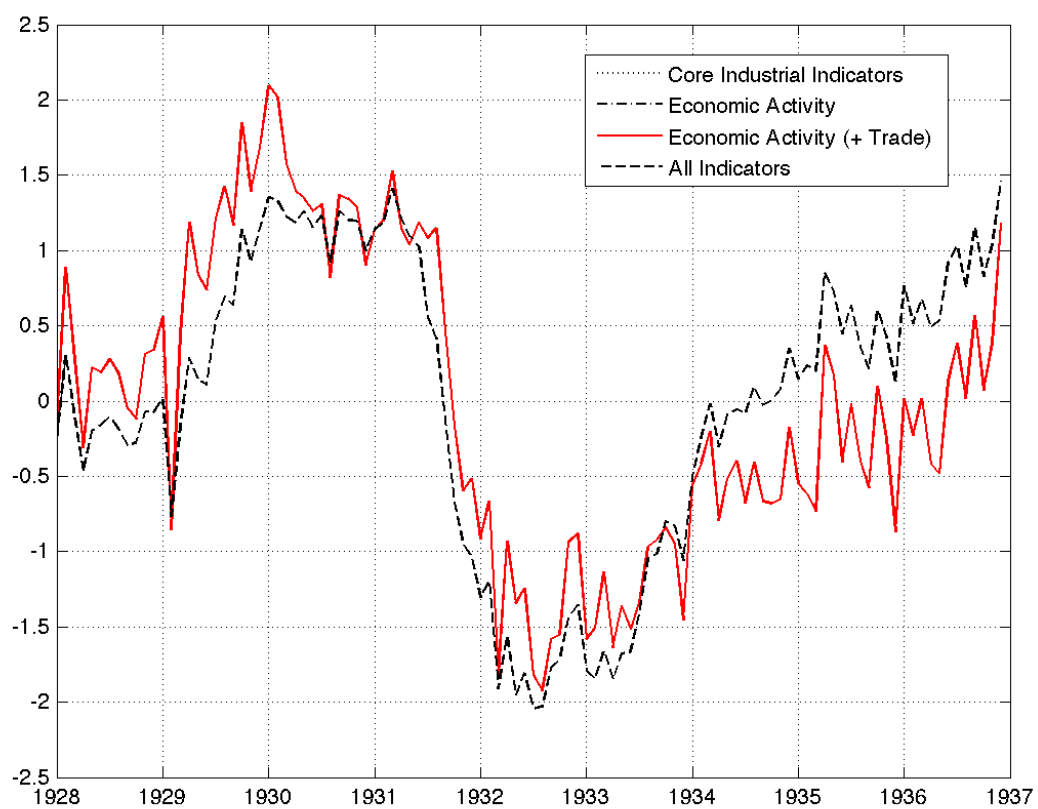


Figure 39: Indicators - Yugoslavia