Chapter 3

Adjustment issues in hyperinflations countries

3.1) Introduction

Last chapter mentioned in various instances the presence of serious adjustment problems in some European countries, notably the ones whose frontiers were subject to very significant changes by the Peace Treaties and also to the payment of reparations. The purpose of this chapter is to describe such problems and to assess their magnitude and likely contribution to the hyperinflation process.

It is important to dissociate the chaotic conditions prevailing in Central Europe immediately after the war from the problems of a more "structural" nature generated by the new frontiers established for the Successor States and by the payment of reparations imposed to Germany. Austria and Hungary lost about 2/3 of their territories and populations and the new Poland was reunified after more than a century foreign domination. It is argued at length in Section 3.2 that the adaptation to these new realities represented a major adjustment problem and that would have to be undertaken under very unfavorable conditions. For Germany the external "imbalance" in the early 1920s was less connected to territorial changes and war dislocations than to the payment of reparations. Section 3.3 discusses at some length the old issue of the burdens of reparations, but notes in this connection that the "transfer problem" faced by Germany, and also by the Successor States, would be made much harder by one very important domestic factor, namely the very strong pressures to increase real wages that stemmed from the extremely low level at which they were and from the extraordinary strengthening of the labor movement observed after the war. Indeed, as argued in Section 3.4, the early 1920s would bring very significant social transformations with sweeping consequences as regards labor markets in Europe. Astonishing increases in unionization, the adoption of compulsory collective agreements and the strength of socialist parties would determine nearly irresistible pressures to recompose pre-war levels of real wages. Section 3.4 also presents figures for real wages immediately after the war highlighting the extraordinarily low level to which wages had fallen in the hyperinflation countries. This fact by itself would mean to impose strict limits to possible reductions in the "standard of living" necessary for adjustment reasons. This "inconsistency" between politically acceptable levels of real wages and external balance provides a promising explanation for the hyperinflations in these countries, to be explored in detail in Chapter 4 ahead. The reconciliation of these demands with the adjustment problems should be one of the key factors for the stabilizations, as we will observe in Chapter 8, 9 and 10.

3.2) Adjustment Problems in the Successor States

3.2.1) The new frontiers

The redrawing of Central Europe's political and economic map determined by the Peace Treaties has been termed "the biggest exercise in the reshaping of the political geography of Europe ever undertaken" [1]. Entirely new countries were created while the remaining others had their area and population greatly modified. The most important changes have been the dismemberment of the Austro-Hungarian Empire into three new countries and the reunification of Poland after 125 years during which she was partitioned between Germany, Russia and the Austro-Hungarian Empire; this is pictured in Table 3-1.

Table 3-1
Successor States: Area, Population and National Income, 1913-1921

	Area[a]		Population[b]		National income[c]
Country	1913	1921	1913	1921	1911-13
Austro-Hungarian Empire	676.4[d]	-	51.4[d]	-	100.0[e]
Austria	-	85.5	-	6.5	29.7
Hungary	325.0 f	92.6	20.9f	7.6	-
Czechoslovakia	-	140.4	-	13.6	44.7
Bulgaria	111.8	103.1	4.7	4.9	-
Rumania	137.9	304.2	7.5	17.6	1.7 f
Serbia	87.3	-	4.5	-	-
Yugoslavia	-	249.0	-	12.0	3.6
Poland	-	388.3	-	27.2	15.1

SOURCES and OBSERVATIONS: (a) Area in thousands square kilometers, not including minor additions to Italy and Greece and from Germany and Russia. (b) Population in millions. (c) National incomes as percentages of the average for 1911-13 national income of the Austrian half of the Empire. (d) Including Bosnia-Herzegovina. (e) Include 5.2% corresponding to territory given to Italy. (f) The Hungarian Kingdom of the Austro-Hungarian Empire. From I. Berend & G. Ránki (1974a) p. 173 and (1979) p. 111 and A. Teichova (1983) p. 532.

[1] D. H. Aldroft (1981) p. 22.

These extensive territorial changes would create formidable adjustment problems: the new frontiers cut across "natural" economic cleavages, obeying an "uneven mixture" of political, military, "historical" and economic considerations[2], turning much harder the already complex problem of splitting of a customs union that endured for half a century and within which a specific pattern of division of labor had been long established[3]. Besides, the conditions under which these adjustments would be made were by no means favorable. Comparing Austria to other European small open economies such as Switzerland, Belgium and Denmark for example, Edward Marz observed that these countries "had been fitted into the larger framework of the European economy over a long period of time, and in the extremely propitious climate of 19th century liberalism, whereas Austria was faced with the task of a speedy readjustment in the frigid trade climate of the 1920s"[4].

On the domestic side two important disturbing factors should be mentioned: (i) the incredibly low level of real wages observed after the war, and the labor movement's strength and the pressure it exercised towards recovering pre-war values, reduced the scope for gains in competitiveness from the compression of real wages and turned unemployment a less feasible alternative. (ii) Adjustment required modernization, technological update and scale adjustment in many sectors of these countries' economies- like in the Austrian metal, mining and energy industries or in the Polish railways, for example - which basically required thorough investment programs, which often implied in pressures over public expenditure[5]. Inflation was an immediate consequence of the impasse between the needs of adjustment and the pressures to increase real wages and over budget deficits.

Another consequence of these tensions was to generate claims for protectionism -

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[2] J. Bloomfield (1985) p. 233; L. L. Ecker-Rácz (1933a) p. 71 and D. H. Aldroft (1981) p. 27.

[3] There were several instances of division of labor within the Empire, the most noteworthy being the concentration of agriculture, especially cereal production, in the Hungarian half, the location of banking, finance and trade connections in Vienna and the development of industry in the later Czech lands. A especially interesting example is provided by the textiles industry where spinning and finishing were predominantly Austrian whereas weaving was the specialty of the Czech lands. Similar patterns could also be found in chemical, ironworks and wool industries. *Cf.* J. Bloomfield (1984) p. 234 and E. Marz (1948) p. 262. Regarding the Polish lands, the Habsburg rulers had a clear purpose of maintaining Austrian Poland essentially agricultural as to serve as a granary for the rest of the empire. *Cf.* J. Taylor (1953) pp. 10-11. On the formation and development of the Habsburg customs union see J. M. Komlos (1983).

[4] E. Marz (1948) p. 302.

often under the cover of nationalist struggles - actually drifting these countries into very restrictive commercial policies and determined efforts to stimulate import substitution[6]. These policies represented a further blow to these countries' trade prospects. The intra-Danubean trade suffered a marked shrinkage during the 1920s: considering only the mutual trade of Austria, Hungary and Czechoslovakia, its share over the total trade of these countries declined from 33.8% in 1921 to 22.3% in 1928 for Hungary, from 30.1% in 1922 to 24.6% in 1928 for Austria and from 26.6% in 1922 to 17.0% in 1928 for Czechoslovakia[7].

This shrinkage is partly due to restrictive trade policy, but it is also an indication of the presence of trade diversion effects in the Austro-Hungarian-Czech customs union. It is interesting in this regard to observe the degrees of openness reported in Table 3-2. Pre-war Central Europe was dominated by two large empires markedly hostile to each other and autarkic in nature. Indeed, as shown in Table 3-2, the Austro-Hungarian and the Russian Empires showed the lowest degrees of openness in 1913. The Successor States became much more open economies during the 1920s than the Habsburg Empire was in 1913, as seen in Table 3-2; this was partly to be expected for some of what was "domestic" trade was turned "international". Poland was an exception in this regard. Over the years Polish lands developed strong economic connections with the respective partitioning empires in detriment of the economic intercourse between the Polish territories: it has been estimated that in 1913 only 7.4% of the total trade of these Polish provinces took place among themselves while 84.5% was with the partitioning powers and 8.1% with other countries[8]. Yet, in the early 1920s these trade channels would be drastically shrunk, notably by the closure of Russia, the successive tariff wars with

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[5] For details see E. Marz (1948) pp. 302-304 *passim*. For details see E. Marz (1948) pp. 302-304 *passim*.

[6] I. Berend & G. Ránki (1974a) , F. Hertz(1947) and L. Pasvolski (1928).

[7] *Cf.* L. Pasvolski (1928) pp. 147, 338-339, J. Bloomfield (1984) p. 264 and F. Hertz (1947) p. 80. In 1922 51.3% of Austrian exports were destined to the Central Europe excluding Germany, which was reduced to 40.1% in 1928 and further to 34.3% in 1935. The corresponding numbers for Hungary were 76.9%, 68.4% and 31.6%, and for Czechoslovakia were 41.3%, 34.4% and 25.2%. *Cf.* F. Hertz (1947) p. 82.

[8] An interesting example is provided by the textiles industry of Lodz, in the former Russian partition, responsible for a large portion of the total textiles output in the new Poland. All of the exports of textiles from these lands had Russia as its destiny while 82.6% of the imports of textiles, composed primarily of raw materials, also came from Russia. *Cf.* Z. Landau & J. Tomaszewski (1985) p.13. It should be observed that the textiles industry was the largest of the new Poland according to the number of workers employed.

Germany[9], the strict commercial policies in the Danubean area and by no means the least of it the strong sentiment for self-sufficiency in Poland.

Table 3-2
Ratios of Foreign Trade to National Income: 1913-1929
(exports plus imports divided by two over GNP)

country	1913	1920-23[a]	1924-27[a]	1929
Austro-Hungarian Empire	13.8	-	-	-
Austria	-	n.a.	24.3	22.6
Hungary	-	18.5b	16.3c	16.1
Poland	-	n.a	13.1	11.4
Czechoslovakia	-	30.2	27.2	27.3
Germany	20.8	n.a.	16.1d	18.0
France	21.3	-	-	23.2
United Kingdom	29.6	18.1e	21.5d	24.6f
Russia	6.8	n.a.	n.a.	n.a.
Denmark	32.2	26.3g	34.5d	33.7f
Belgium	66.1	50.5h	57.9i	43.2j
Switzerland	41.7	31.1[h]	n.a.	25.1[f]

SOURCES and OBSERVATIONS: Some ratios from K. W. Deutsch & A. Eckstein(1961) and others computed from national income and foreign trade on B. R. Mitchell(1978). The ratio for the Austro-Hungarian Empire considers national income of Austrian half from A. Teichova (1983) p. 532 and of the Hungarian half from F. Fellner(1930) p. 81 and A. Eckstein (1956) p. 14. Polish rations from national income estimates in Z. Landau (1976). (a) yearly averages. (b) 1921 only. (c) 1925-1927. (d) 1925 only. (e) 1922 only. (f) 1928 only. (g) 1920 only. (h) 1924 only. (i) 1927 only. (j) 1930.

The extent of trade creation or trade diversion generated by the new frontiers can be assessed by deducting from the ratios reported in Table 3-2 the share of the mutual trade among Austria, Hungary and Czechoslovakia and compare this "corrected" degree of openness with the value of 13.8% for the whole empire in 1913[10]. Hence computing these "corrected" ratios for Austria and Czechoslovakia we obtained values of 19.8% for the former in 1925 and 26.2% for the latter in 1922 [11], indicating that these countries enjoyed substantial trade creation effects with the new frontiers. The same would not be true for Hungary whose degree of openness deducting the shares corresponding to

[9] C. Kruszewski (1943).

[10] The procedure would not be rigorously correct, first because the Habsburg Empire included more territory than these three countries together, as it is easily seen in Table 3-2. From the methodological point of view one problem is that the procedure does not control for other factors, such as for example commercial policy, which certainly has had a trade diverting influence.

[11] For Austria we deducted from openness in 1925 reported in Table 3-2 the joint share over total trade of the trade with Hungary, Czechoslovakia and Poland, which summed to 37.0% in 1925. Thus multiplying 24% by (1-0.185) we obtained 19.8%. For Czechoslovakia we deducted from total trade the share of Austria, Hungary, Yugoslavia and Romania, which summed up to 26.6% in 1922. Thus multiplying 30.2 by

Austrian and Czech trade would be of only 12.2% in 1921[12]. This would seem to point out *cœteris paribus* that the customs union has had a slight trade creation effect[13], but most likely such decreased "corrected" openness, despite the continuously falling share of the trade with Austria and Czechoslovakia, is compatible with the conscious effort by the Hungarian authorities to promote industrialization by import substitution[14].

3.2.2) Czechoslovakia

It should be observed that the capacity to undertake the adjustments required to these new conditions, and in particular the export possibilities, were very unevenly distributed among the Successor States as the Peace Treaties had assigned to Czechoslovakia a "disproportionally large share of the former Monarchy's economic potential" [15]. Indeed Czechoslovakia starts showing strong and consistent trade surpluses as early back as in 1920, in sharp contrast with Austria and Hungary for which exports represented respectively 54.8% and 39.3% of imports in this year [16] and also, with Poland[17]. It is interesting to observe in this connection that the Habsburg monarchy as a whole had been a debtor economy before the war, a chronic trade deficit being financed to a substantial extent by incomes from services, such as transit traffic, banking and trade commissions, tourism, emigrant remittances and by new borrowing[18]. After the war the

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(1-0.13305) we got 26.2%. The figures are from J. Bloomfield (1984) p. 264 and L. Pasvolski (1928) p. 147.

[12] The share of the Hungarian trade with Austria and Czechoslovakia over the total was 33.8% in 1921, so that multiplying 18.5 by (1-0.338) we obtained 12.2%. Figures are from L. Pasvolski (1928) pp. 338-339.

[13] Which would seem paradoxical in view of the complaints that existed in the Hungarian Kingdom about its position within the union, which stemmed, to some extent, from the kingdom's interest in fostering industrialization. *Cf.* E. Marz (1948) p. 139-145 and L. L. Ecker-Rácz (1933a) pp. 5-10 *passim.*

[14] F. Hertz (1947) pp.70-71.

[15] Around 70% of the industrial capacity of the Empire Western Provinces was given to Czechoslovakia: she retained over 50% of all factories of the Austrian half of the Empire (while Austria got 32.4%), 63.8% of all boiler surfaces (against 18.3% given to Austria), 75% of the coal mining, 60% of the iron and metal industries, 75% of chemical works, 75% to 80% of the textile and building material industries, 92% of the sugar production and nearly 100% of glassware industries. *Cf.* I. Berend & G. Ránki (1974a) p. 182 and E. Marz (1948) p.136 and 249.

[16] J. Bloomfield (1984) p. 252 and L. Pasvolski (1928) p. 329.

[17] See J. P. Young (1925) vol. II p. 354.

[18] According to L. Pasvolski (1928), during the period 1909-1913 the Empire's accumulated trade deficit was of 2,400 million crowns and net interest payments summed to 1,550 million crowns, while emigrant remittances totaled 1,500 million crowns, commissions and traffic yielded 700 million crowns and tourism another 500 million crowns. *Cf.* p.10-13. See also W. T. Layton & C. Rist (1925) pp.124-125.

main sources of credit, France and Germany, were no longer available, in view of their own financial problems, and the British and the US appeared little interested in performing this role [19]. Vienna lost in part its position of trading intermediary and banking agent between Western and Eastern Europe and consequently the income derived from these functions[20]; furthermore the best part of the former Monarchy export potential was given to Czechoslovakia, which had the consequence of leaving a magnified import surplus to the other Successor States.

Apart from that, to the extent the Czechs stood on the winning side of the war they assured themselves not only the freedom to levy tariffs and the allies goodwill regarding MFN agreements and commercial credits but also the privilege of collecting reparations, or at least of not paying any[21]. Czechoslovakia held actually a very small share of the reparation liabilities of Hungary and Bulgaria, but this is certainly better than to own reparations, as Austria and Hungary. It had become clear quite early that the scope for collecting reparations from Austria and Hungary was very reduced, but its mere presence, and especially the first lien it held on Austrian and Hungarian state property, precluded the access to international credits in addition to creating an unfavorable atmosphere for a stabilization effort[22].

The list of contrasts favoring the Czech Republic could be considerably multiplied, as explored by comparative studies such as J. Bloomfield (1984) and A. Teichova (1984). It should be noted that according to Sargent's account of the European hyperinflation Czechoslovakia did not plunge into hyperinflation by virtue of a

[19] I. Berend & G. Ránki (1974a) p. 223.

[20] For which it was also important the disturbed trade conditions of the early 1920s and the other Successor States policies of developing their own trade and financial connections. See E. Marz (1948) p. 519.

[21] Both made some deliveries in kind immediately following the war, but not in very significant amounts. To Austria for example, was never imposed a schedule of payments and in 1930 the Austrian liabilities were written off by the Hague agreements on non-German settlements. Hungary received a quite different treatment. A provisional schedule of payments was established in 1924 and it was made definitive by the Hague agreements. The total payments summed to around 50 million dollars mostly due to Greece and Romania, but up to 1926 payments were effected mostly in the form of coal deliveries to Yugoslavia. *Cf.* H. G. Moulton & L. Pasvolski (1932) pp. 234-246 and I. Berend & G. Ránki (1974a) pp.184-185.

[22] Reconstruction was "not burdened but ...hindered by reparations [w]hich... hung like a sword of Damocles over the economy of the defeated countries, threatening the balance of the state finances and the budget, imposing to some degree psychological impediments to economic reconstruction, affecting the accumulation of capital and preventing productive investments ... it kept the countries of East-Central Europe in perpetual uncertainty, served as a pretext for kindling a chauvinistic-revanchist atmosphere, and became one of the handicaps to the economic development in that area". *Cf.* I. Berend & G. Ránki (1974a) p.185.

purposeful policy choice towards fiscal austerity[23]. Although this could be held to some extent as one of the contrasts, the most important point is probably that the superior strength of the Czech's economy allowed policy choices that were not feasible to other countries.

3.2.3) Austria

At the immediate aftermath of the war the Austrian situation appeared especially serious. The new Austria inherited an "extremely acute problem as regards fuel", as it had almost no coal deposits within its frontiers, and a no less dramatic food problem [24]. Both problems were made very difficult in the early 1920s in view of Austria's inability to supply herself in the disrupted international markets[25]; these, however, were problems of a longer run nature that would make themselves felt for the whole decade. Austria's energy problem was described as her "Achilles heel", as the country faced the dilemma of relying on its exports to buy coal in international markets or to develop a more intensive use of her lignite deposits and her hitherto unexplored hydroelectric potential [26].

The food problem had had its origin in the previous dependence on Hungarian cereal surpluses and in the inherent weaknesses of Austrian agriculture with its insufficient acreage and low productivity. The development of domestic output faced problems of topographic nature, suffered from capital and labor shortages and was hampered by the belated survival of feudal institutions in the form of commons and small plots[27]. In addition to that Austrian industry was handicapped by the poor raw materials endowment given by the new frontiers, some sectors such as those producing luxuries had little prospects of recovery while others were tailored for a closed market of 50 million people, the result of these being the chronic unemployment and idle capacity experienced by industry during the 1920s [28]. Vienna's size was regarded as a serious issue

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[23] T. Sargent (1982) p. 85.
[24] J. Bloomfield (1985) p. 234 and E. Marz (1948) pp. 278-280, 288.
[25] Both problems were strongly felt in Vienna in the immediate post-war, the shortages experienced being second only to those of Russia. *Cf.* LN (1926a) p. 10. By virtue of this the Austrian conditions have been described with adjectives such as "disastrous", "catastrophic", "tragic" and "chaotic". See I. Berend & G. Ránki (1974a) p. 174, J. Bloomfield (1984) pp. 236-240, L. Pasvolski (1928) p. 95 and K. W. Rothschild (1947) p. 19.
[26] E. Marz (1948) pp. 288-293.
[27] *Ibid*. pp. 275-284.
[28] *Ibid*. pp.293, 299 and 632-633.

as it stood allegedly out of proportion with the country's economic possibilities [29].

These problems weighted heavily and directly not only upon the new republic's balance of payments but also upon the budget, especially in the form of doles and food subsidies. In addition to that the first budgets of Austria were further burdened by the massive return to Vienna of government officials in numbers that had been considered excessive for the administration of a country of 30 million people [30]. The dimension of these problems, or at least their appearance, was such that the issue of the economic viability of the new country was very seriously raised; "the widespread conviction, according to a historian, [w]as that the remnant of the old Austrian Empire which was to constitute the new Austria was incapable of independent existence" [31]. This alleged "non-viability" was especially emphasized by the Socialist Party which had as part of its program the *Anschluss* and continuously campaigned over what was called the Austrian Dilemma: the union with Germany or non-existence. In 1919, under their influence, the Provisional National Assembly had even passed a declaration favoring the *Auschluss* [32].

3.2.4) Hungary

Hungary's post-war economic prospects seemed better than Austrian's at least to the extent that her being a predominantly agricultural country the aftermath of the war did not bring the "prospect of imminent starvation" it did in Austria[33]. But, on the other hand, Hungary experienced some very serious political convulsions up to 1921. A short lived Bolshevik revolution, a Romanian invasion, a civil war and two restoration attempts may possibly have done more damage to the country than the war itself[34]. Unlike Austria Hungary's attitude towards her neighbors was essentially hostile in consequence of which the issue of the viability of the new Hungary was appraised very differently with respect to the corresponding Austrian problem: while the existence of a healthy Austria was regarded as necessary for balance of power reasons, the existence of an Hungarian state

[29] *Ibid*. pp. 269-273 and K. W. Rothschild(1947) p.19.
[30] L. Pasvolski (1928) p.104-105.
[31] *Ibid*. p.108. K. W. Rothschild (1947) p. 19-20, adds that, "the general attitude of the leading politicians ... was to profess complete disbelief in Austria's ability to exist as an independent entity". Austrian historian Edward Marz's verdict on the issue was "pessimistic". *Cf.* E. Marz(1948) p. 317.
[32] *Ibid*. p.237 and J. Bloomfield (1984) p. 232-233.
[33] LN (1926a) p. 10, L. L. Ecker-Rácz (1933a) p. 132 and LN (1926b) p. 9.
[34] L. Pasvolsky (1928) pp. 291-292.

seemed to represent on the contrary a threat to peace in the region[35]. In this connection one understands the quite different treatment given to Austria and Hungary with respect to the reparations issue. A schedule of payments was never imposed to Austria, and in 1930 the liability was written off by the Hague agreements on non-German settlements. Hungary, in contrast, had her payments schedule established in 1924 and confirmed by the Hague agreements. The total liability was small - 50 million dollars - and smoothly made in the form of coal deliveries to Yugoslavia, but the tensions it created were certainly significant[36].

Hungarian agricultural output had fallen to around one third of its pre-war volume in 1919. At this point, however, with the closure of the Danubean markets, a recovery of output required that the surpluses be produced at prices competitive in world markets, and this represented no easy adjustment to Hungarian agriculture. After 50 years of production for a protected market of 50 million people Hungarian agriculture "lost all contact with international developments ... [a]nd had fallen into a state of invalidism" [37]. The necessary process of modernization would have to be superimposed on a backwards agrarian structure with lively feudal elements where strong interest groups systematically objected to attempts of land reform [38]. These difficulties were considerably increased by the depressed trade conditions and weak terms of trade faced by Hungary in the early 1920s, so that in 1920 agricultural exports reached only 21% of it its pre-war values[39].

3.2.5) Poland

The new Poland inherited a number of difficult problems related to the lack of economic unity between the several regions of the country. The Polish lands have been kept isolated from each other and during the pre-1914 period no attention whatsoever was given to the economic development of these regions "as an organic whole": the partitioning empires took a very negative attitude towards the economic development of the Polish territories, which was "twisted, distorted and retarded to suit the conveniences

[35] I. Berend & G. Ránki (1974a) pp. 214-215 and LN (1945) p. 39.
[36] H. G. Moulton & L. Pasvolski (1932) pp. 234-246 and I. Berend & G. Ránki (1974a) pp. 184-185.
[37] L. L. Ecker-Rácz (1933a) p. 3.
[38] I. Berend & G. Ránki (1974a) pp. 191-192.
[39] *Ibid*. p. 178.

of the partitioning powers" [40]. A simple and illustrative example of a serious problem in this regard was related to transportation. Three different railway networks had been established in the Polish territories according to the specific policies and needs of the partitioning powers, and consequently largely inappropriate for the needs of the new country. The normalization of economic life in Poland required a large-scale program of investments in reorganization, amalgamation, redesigning and also reconstruction of her railways [41]. War devastations and pillages had been especially severe in the Polish lands, as hostilities lasted as late as 1920 at the Eastern front [42], and hit especially hard Polish railways as much of her rolling stock was either destroyed or carried away [43]. In addition to that, Poland experienced an acute shortage of coal, which further worsened the railway problem, besides being aggravated by the transportations deficiency, as the existing stocks could not reach the industrial districts[44]. Industry suffered heavily from the transportation and raw materials bottlenecks: with respect to the 1913 levels of employment, at the end of 1919 the metal industry was of only 12%, the textiles and paper industry stood at 25%, chemicals and food industries reached 35% and only the mining industry managed to recover most its pre-war levels of employment[45]. The situation of agriculture was also very serious as war devastations reduced markedly the area under cultivation and livestock [46], the levels of production of 1909-1913 being regained only by 1924-1928, though without any gain in yields per hectare [47]. Polish agrarian structure was essentially backwards, especially in the Russian and Austrian partitions, and the new country faced a serious problem of rural overpopulation. With stricter policies from the immigrant receiving countries in the 1920s, the alternatives for

[40] J. Taylor (1953) p. 3.
[41] A. B. Barber (1923) *passim*.
[42] The war against Soviet Russia over the drawing of the eastern frontiers ended only in March of 1920 with the Peace of Riga. On war damages see Z. Landau (1968).
[43] It is estimated that one half of all bridges, stations and workshops were also destroyed. *Cf.* I. Berend & G. Ránki (1974a) p.176, A. B. Barber (1923) and Z. Landau (1968) *passim*.
[44] A. B. Barber (1923) p. 63. Before the war the total consumption of coal within the Polish territories, apart from Upper Silesia, was of around 18.6 million tons per year, half of it imported. In 1919 Polish production reached only 6.2 million tons while imports have barely reached 950 thousand tons, forming then only 38% of the pre-war consumption. In 1921 production was increased to 7.6 million tons and imports reached 2.9 million tons performing 57% of pre-war consumption..
[45] Z. Landau (1968) p. 247.
[46] I. Berend & G. Ránki (1974a) p.176.
[47] Z. Landau (1969) pp. 83-84.

absorbing this surplus labor, estimated to reach 11.5 million in 1930 [48], have been fostering industrialization and the modernization of agriculture, which also required a program of agrarian reform, meaning parceling of latifundia and amalgamation of small plots and commons[49]. Both courses required large-scale efforts of investment, in addition to the political conditions, especially as regards agrarian reform, that were lacking during the immediate post-war years.

Government finances were subject to several pressures. On the revenue side it should be observed that the three areas forming the new Poland were subject to different tax systems, whose unification and reform turned out to be very complex, being finally achieved only by 1925[50]. Tax evasion had been continuously stimulated for many years as something of a patriotic practice: according to an observer, "for four generations [t]he Polish citizens rightly looked upon the tax collector as an agent of an alien and a hated domination, whom it was a patriotic duty to thwart" [51]. On the expenditure side, an entirely new government administrative machinery had to be created, while the country was fighting a war that lasted until mid 1920, and labor unrest combined with the socialists' influence forced the introduction of a vast body of social legislation, which resulted very heavy for the first budgets of the new republic. In addition, a substantial part of the reconstruction outlays in domestic currency, especially those related to the railway problem, weighted upon the government budget.

To sum up, it appears an understatement to argue that the Successor States faced very serious economic problems at the end of the war. Their conditions immediately after independence, overwhelmed by famines, wars and revolutions, could be described, without any trace of exaggeration, as chaotic. Yet, it is important to observe that although inflations had started at this moment the switch to hyperinflation would come only much later, after economic conditions having been largely "normalized" or rid from the most direct effects of wars and revolutions. The earliest hyperinflation, according to Cagan's

[48] According to a League of Nations study of 1946 quoted by J. Taylor (1953) pp. 76-77, assuming levels of productivity similar to the French then 11.5 million could leave the country without depressing the levels of production.
[49] J. Taylor (1953) pp. 76-77.
[50] F. Zweig (1944) p. 30.
[51] E. H. Young (1924) p. 5. See also F. Zweig (1944) p. 17.

definition, would happen in Austria in October of 1921, while the latest would be observed in Hungary in March of 1923 [52]. This is a powerful indication that the post-war inflationary process would be less connected to the initial chaos than to the more fundamental imbalances and adjustment problems that we described in this section.

3.3) Germany: the burden of reparations

The economic conditions of Germany after the war contrasted favorably with those of the Successor States: there had been no devastations or political disruptions of comparable magnitudes and the financial situation of the Reich, though certainly not comfortable, did not fare much worse than those of France and Italy [53]. Like the Successor States a substantial part, most likely the greatest part, of German problems during the 1920s would be generated not by the war but by the Peace Treaties. Territorial losses, for example, though not as nearly comparable to those imposed to Austria and Hungary, had important consequences especially as regards German coal supplies, actually turning the country from a coal-exporting into a coal-importing country [54]. The Treaties also determined the surrender of nearly all of Germany's merchant fleet and all of her foreign investments; these provisions would result troublesome to the German balance of payments. Incomes from such "invisibles" - notably shipping earnings and returns from foreign investments - financed a chronic trade deficit, averaging 17.5% of imports during 1909-1913, and even allowing for a steady flux of capital exports of long term account of around 400 million gold marks yearly[55]. In these circumstances, the loss of earnings from invisibles, the normal war dislocations affecting export industries, the high import requirements determined by reconversion and restocking and the coal problem would compose a picture of a serious, though a hardly overwhelming, balance of

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[52] Cagan's defines the start of an hyperinflation as the month in which in which inflation was greater than 50%, P. Cagan (1956) pp. 25-26.

[53] C. P. Kindleberger (1984) pp. 295-296.

[54] Especially after the League of Nations arbitration on the Upper Silesian question in 1921, ceding these territories to Poland. *Cf.* J. M Keynes (1920) pp. 81-97 and (1922) pp. 32-33 passim and Republic of Germany-Krieglastenkommission(1924) p. 38. As argued below this territorial change would represent a major improvement for the Polish balance of payments with important implications as to her adjustment problems.

[55] H. G. Moulton & C.E. McGuire (1923) pp. 23-33 and appendix A pp. 251-295, and Republic of Germany (1923) pp. 21-22.

payments adjustment problem.

On the fiscal side the situation was no better, the main pressures being the commitments under the Versailles Treaty and the domestic debt. The impact of reparations payments would be more clear after the London Ultimatum in 1921 when cash payments started. In the fiscal year of 1922, for instance, reparations payments totaled 3,600 million gold marks, while total tax revenues reached 3,580 million, the remaining expenditures summing 6,265 million and accounting for nearly all of the increase in the floating debt within this period namely 6,384 million gold marks[56]. The real value of the domestic debt reached a maximum in the end of 1918 when it was 58.5 billion gold marks, a value that was some 20% greater than national income for 1914. Inflation acted very rapidly, however: in the end of 1920 this value has been reduced to 5.4 billion gold marks[57].

No doubt, the most serious problem created by the Peace treaties was certainly the payment of reparations, which by virtue of Germany's weight over the world economy, turned out to become an issue of overwhelming influence for European economic diplomacy in the early 1920s[58]. The burden it effectively represented over the German economy have been the object of a lasting controversy we will abstain from reviewing[59]

, though we should observe that the empirical assessment of the burden of reparations have been much influenced by Machlup's seminal work on the issue[60]

. Machlup reports that reparations payments represented 10.9% of exports during 1925-1928 and 14.7% during 1929-1932, and that as a percentage of national income reparations accounted for 2.5% on average during 1924-1932. These numbers would appear very modest as compared to the ones resulting from other episodes of large transfers such as the British subsidies during the Napoleonic Wars, the French indemnity

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[56] Republic of Germany-Krieglastenkommission (1924) p. 30.

[57] Republic of Germany (1923) p. 29.

[58] "In the whole period, international financial transactions, even those involving countries not in the least involved with reparations, were powerfully influenced by the reparations problem. Reparations set the agenda for the next twenty years, and gave the whole period the character of high politization, precarious balance, or open crisis which students of international finance invariably detect and remark upon". *Cf.* M. de Cecco (1985) p. 47.

[59] The debate on the so-called transfer problem has originated countless entries, for which an interesting survey is provided by F. W. Fetter (1968). We should also mention Keynes' contribution starting the debate, J. M. Keynes (1920) and (1922), and his later exchange with Ohlin, in D. E. Moggridge(ed.)(1983) and B. Ohlin (1929).

after the war with Prussia and the US capital exports after the World War II; this would lead Machlup to observe that "it is hard to understand why some economists in the 1920s made such a fuss about the supposed severity of the German transfer problem"[61].

Two important observations should be made on Machlup conclusions about the burden of reparations, and the possible bearing it may have on the German inflation: on one hand, whatever the burden of reparations when seen in isolation it would be made more difficult by the exceptionally low level of real wages observed immediately after the war and the decisive posture of the German labor movement to recover the levels of 1914; this represented a major obstacle for the improvement in competitiveness that was an indispensable requirement for the "transfer" of reparations payments. In fact, the tensions between the endeavors of the labor movement and the requirements of external balance in the presence of reparations can be thought as an important determining factor of the plunge into hyperinflation. By the same token, after the stabilization and the Dawes loan, the presence of recycling by means of autonomous capital inflows would turn the adjustment effort much easier.

Second, one should have a proper measure of the burden of reparations before 1924 and of the extent of recycling after 1924. Machlup calculations refer to the period under the Dawes plan so that the implied burdens correspond to payments that had suffered a major scaling down cum rescheduling in 1924 with respect to the payments prescribed by the London schedule of 1921. Quite clearly the arguments on the impossibility of the reparations demands, and especially those by Keynes, referred specifically to the provisions of Versailles and those of the London settlement, whose burdens are not considered by Machlup. Estimates of these burdens are reported in Table 3-3 .

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[60] F. Machlup (1976) chapter 15.
[61] *Ibid*. p. 385.

Table 3-3
Germany: Reparations Payments, 1921-1932
(millions of gold marks)

year	Exports	Reparations	%rep/exp.	%rep/GNP
1921[a]	1.864.8	1.484.8	79.6	2.6[d]
1922	3.970.0[b]	3.032.2[c]	76.4	5.3[d]
1923	5.038.7[b]	3.310.1[c]	65.7	5.8[d]
1924[e]	7.816.0	281.0	3.6	0.5[d]
1925-28[e]	10.840.0	1.182.0	10.9	1.6
1929-32[e]	10.214.0	1.498.0	14.7	3.5

SOURCES and OBSERVATIONS: (a)values for six months between May and October as reported by J. M. Keynes (1922) p. 51. (b)Values in gold marks obtained from C. Bresciani-Turroni(1937) p. 248 and J. P. Young(1925) vol. I p. 539. (c)Due values obtained by computing 26% of actual exports and adding 2.0 billion gold marks. (d)Considering the estimate of national income for 1925 used by Machlup. (e)Values from LN(1944) p. 103. (f)Values computed by F. Machlup (1976) p. 384.

Table 3-3 considers reparations payments under the assumption that the London schedule has been fully met; this was indeed so at least until the fall of 1922. The London schedule established yearly installments that should include a fixed portion equal to 2.0 billion gold marks, approximately £111.0 millions, and another portion equivalent to 26% of German exports[62]. The burdens implied by these arrangements were much heavier than the ones observed for other transfer cases studied by Machlup[63] and than the ones relative to LDCs debt servicing in the early 1980s[64]. Machlup's conclusions are therefore reversed as far as the period before the Dawes Plan is concerned. The fact that reparations demands under the London schedule appeared indeed very heavy, as repeatedly argued by German officials at the time, reinforces the hypothesis that the hyperinflation was related to a difficult, perhaps impossible, transfer problem. The contrast between the burdens under the London schedule and under the Dawes Plan is extraordinary; it provides a powerful indication that the basic "adjustment" necessary to eliminate the inconsistency between external balance and acceptable level of real wages was indeed the rescheduling of reparations.

[62] J. M. Keynes (1922) p. 45 and H. G. Moulton & C.E. McGuire (1923) pp. 56-62.
[63] See F. Machlup (1976) p. 393. Note that our ratios of reparations over national income are underestimated for the period 1921-1925 for we had to consider 1925's GDP; most certainly national income in these years was considerably smaller.

Similar conclusions as regards the magnitude of the burdens of reparations could be obtained from a different method. There are estimates, though sharply divergent, of the total reparations payments up to August of 1924, including cash payments under the London schedule, delivery and requisitioning of merchant ships, seizure of German property and miscellaneous deliveries in kind. The Reparations Commission placed its estimate at 8,092 million gold marks and the German government at 41,442 million gold marks, a difference that could be explained by the fact the the former calculation is reportedly incomplete mostly as regards the liquidation of seized property and payments not technically defined as reparations and by differences in valuations of deliveries in kind[65]. The Reparations Commission, when included liquidation of German property considered the lowest price at which it could be auctioned while the Germans presented valuations based on replacement values[66]. If we add to the Reparations Commission estimates only the German estimates of property seizure, thus disregarding differences as regards all other payments, the total payments would by raised to 25,531 million gold marks which would represent 103% of the total value of exports between January of 1919 and August of 1924[67]. A similar calculation could be performed using Moulton and McGuire "impartial analysis"[68] of the payments made by Germany during the period from November of 1918 to September of 1922, which were estimated at 25,8 billion gold marks, not including the payments in cash under the London schedule, which represented 173% of total exports during these years.

The German stabilization problem differed very fundamentally from the equivalent problem for the Successor States mostly because Germany was a large industrial country whose healthy reconstruction was a fundamental issue for the reconstruction of the world economy. The international importance of the German stabilization would be largely underestimated if we measured it only by Germany's weight on international trade[69],

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[64] See for example A. Fraga (1985) p. 41.
[65] H. G. Moulton & C.E. McGuire (1923) pp. 66-67.
[66] *Ibid*. p.72 and appendixes D and F.
[67] Using the Reparations Commission estimate as it stands we obtain 32.6%, using the German number we get 167.2% and averaging the two we obtain a round 100% of total exports in that period. The total exports during these years have been computed from C. Bresciani-Turroni (1937) p. 248 and J. P. Young (1925) vol. I p. 539, and for the period January-April of 1921, for which there are no figures, we used interpolations.
[68] H. G. Moulton & C.E. McGuire (1923) pp. 74-75.
[69] Germany alone was responsible for nearly ¼ of European exports and approximately 28% of world

since reparations payments represented a much stronger influence over international capital movements. As an illustration of the extent of this influence we should observe that the average yearly reparations installment of the period 1921-1923 would represent no less than 3/4 of the total British capital exports in 1913 and 75.6% of the combined total of British and American capital exports in 1925[70]. The total reparations liability, fixed in London at the astonishing figure of 138 billion gold marks, or approximately £7,500 million, was so fantastic that could only be justified as "a big public exercise to convince public opinion in the victorious countries that the conclusion of an armistice with Germany did not mean millions of people had fought and died for nothing "[71].

This total reparations debt had been divided into three classes of bonds, the first two, the A and B bonds, would be issued in 1921 totaling 50 billion gold marks while the C bonds summing over 80.0 billion gold marks would be issue at some point in the future. If we consider that the C bonds would be eventually written off, as there had been some concrete indications, and if we deduct from the remaining debt the "impartial" estimates of Moulton and McGuire of the sums already paid, which we saw were far greater than the estimates of the Reparations Commission, we would be left with a total debt of 24,2 billion gold marks or £1,343 million. The possibility of recycling such amount through an international loan, was decisively dismissed by Keynes in 1923 as an "absurdity - an impossible and injurious chimaera", for the sum involved was "out of relation to the capacity of the investment market for securities of this kind"[72]. Keynes observed for example that the total stock of sterling loans outstanding for Empire, dominion, colonial and provincial governments together, that had been accumulated over a long period of time and under very favorable investment channels, totaled no more than £500 million and that the present value of all loans to foreign governments outstanding

exports of manufactured goods.

[70] The total value of British capital exports in 1913 was £224.3 millions. *Cf.* A. I. Bloomfield (1968) appendix 1. In 1925 total British issues were £88.0 according to R. S. Sayers (1976) vol. III p.310, and American capital exports on long-term account reached 676.0 million dollars or £139 million. *Cf.* A. I. Bloomfield (1943) p. 340 .

[71] "As was patronizingly indicated by "well informed circles" when Keynes' book came out and took the world by storm, the poor economist was taking the issue too seriously. The Germans, of course, would not be asked to pay the exorbitant sums specified at Versailles. It was all necessary to rally public opinion around the Peace Treaty". *Cf.* M. de Cecco (1985) p. 47.

[72] In E. Johnson (ed.)(1974) p. 150.

summed to approximately £400 million[73]. Similarly, the total reparations liability was approximately equal to the sum of all foreign issues in London made during the active ten years between 1904 and 1913[74]. Very clearly, the consideration of an international loan without a major writing-off and rescheduling of the total reparation debt would lie, according to Keynes, "in the region of the wildest fantasy"[75].

The Dawes loan notwithstanding was a remarkable success[76], mostly because it reduced the burdens of reparations installments to the manageable levels reported by Machlup. The loan in itself however "was not to recycle the entirety of German reparation ... but merely to prime the pump"[77], as the total amount subscribed was not enough in itself to cover one full year of reparations payments[78]. The importance of the Dawes loan was that it triggered a massive stream of capital inflows into Germany which allowed the smooth recycling of reparations payments; long term capital inflows in 1924 were nearly five times as big as the total amount of reparations paid in this year. On average, during the period 1925-1929, capital inflows on long term account were about twice the value of reparations paid. This represented a major redirectioning of international capital movements with respect to the "normal" pre-war patterns. Considering the value of all overseas issues in the US, UK, the Netherlands and Switzerland for debtor countries, which reached $1,020 million dollars or approximately £210 million, Germany received the equivalent of £46 million, or 22% of the total, an astonishing performance for a country that had been a major capital exporter before the war[79]. In any event these developments certainly did not contribute to strengthen the international economy during the 1920s, and some authors even considered that the dislocations determined by the collection of reparations might be held responsible, to some significant extent, for the collapse of the early thirties[80].

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[73] *Ibid*. p. 151.

[74] A. I. Bloomfield (1968) p. 43. The sum of the annual values of the net inflows of capital during 1904-1913 is £1,327

[75] E. Johnson (ed.)(1974) p. 152.

[76] C. P. Kindleberger (1984) p. 303.

[77] *Idem* , *Ibid*.

[78] In E. Johnson(ed.)(1974) p. 150.

[79] The figures are from United Nations (1949) p. 26, and refer to issues only for debtor countries, thus excluding issues for Belgium, France, Sweden, Ireland and Luxemburg . Second to Germany as a host for foreign issues came Canada with $185 million and Argentina with $81 million.

[80] According to Kindleberger, "reparations may not have been directly responsible for the depression ... but

3.4) Wages and Adjustment

It is difficult to deny that increases in real wages damage the cause of external balance. In this connection two sorts of facts would render very problematic the adjustment problems described in the last two sections: one was the extraordinarily depressed level of real wages observed at the aftermath of the war and the other was the no less extraordinary and simultaneous strengthening of the European labor movements after the breakdown of the German and Habsburg empires. Tables 3-4 through 3-9 summarize some of the available figures for real wages immediately following the war. The data are scanty and except for Hungary and Germany there is little information on real wages before 1920. All indications are unambiguous, however, that real wages reached their lowest point more or less at the end of the war - a little earlier in Germany and a little later in Hungary - depending on specific conditions[81].

Table 3-4 reports figures for Germany during 1920; the tendency is very clearly in the upwards direction for all categories, some even approaching pre-war levels. Wages at the beginning of 1920 had been within 50% to 70% of pre-war levels, which was only partly justified by the adoption of the eight-hour day in 1918. These levels were considered very low, although they represented a slight progress with respect to the levels at the end of the war. The attempts to recover from such low values were partly sucessful at least up to the collapse of the Erzberger stabilization in 1921. These gains would be defeated by the hyperinflation and the recovery of pre-war levels could only be effected after the stabilization.

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together with war debts they complicated and corrupted the international economy at every stage of the 20s". *Cf.* C. P. Kindleberger (1973) p. 39. Similar views are held by Aldcroft, according to which "the economic consequences of debt collection may not have directly caused the slump but they certainly provided one additional impediment to the smooth functioning of the international economic mechanism in the 1920s". *Cf.* D. Aldcroft (1981) p. 78.

[81] It is more appropriate to say that wages fell continuously until the end of the hostilities. For Germany and Austria this is indeed the end of the war or earlier, while for Hungary and Poland hostilities lasted somewhat longer; the former was mostly involved in a civil war that culminated with a Romanian invasion terminated only in 1920, and the latter fought a war with the Soviet Union until late 1919.

Table 3-4
Germany: Indexes for Real Wages, 1920
(1913=100)

	Feb.1920	Jul.1920	Dec.1920
miners (unsk.)	67	94	101b
miners (skill.)	67	89	94b
building (unsk.)	63	84	n.a.
building (skill.)	57	67a	n.a.
wood (unsk.)	62	-	n.a.
wood (skill.)	69	-	n.a.
metals(unsk.)	66	93a	n.a.
metals(skill.)	48	60a	61b
State emp. (unsk.)	79	72	88
state emp. (skill.)	79	95	66
printing	55	69	71b

SOURCES and OBSERVATIONS: (a)November. (b)June. From ILO (1925) pp. 13-17 and ILO (1926) pp. 76-77.

Similar patterns, though with slight variations can be observed in the other countries. Table 3-5 shows numbers for real wages in Hungary from which it is clear that the decline in real wages produced during the war was much more dramatic than the one observed in Germany. As in Germany real wages assumed an upward trend - especially after the withdrawal of the Romanian occupation army in 1920 - that was somewhat interrupted by the acceleration of inflation but that was restarted with the dissemination of indexation in 1923. Real wages averaged between 62% and 66% of pre-war levels in 1923 and despite the upward trend they would barely reach pre-war levels just before the Great Depression[82].

[82] ILO (1926) pp. 90-92 and D. Pap (1925) pp. 164-165. See Table 8-5 for details on wages shortly before and after the stabilization.

Table 3-5
Hungary: Indexes for Real Wages, 1918-1920
(1913/1914=100)

	Dec.1918	Dec.1919	Dec.1920
Iron/engineering(unsk.)	46	30	63
Artisans(skill.)	53	26	48
White collarsa	47	21	22
Workersa,b	84	40	40

SOURCES and OBSERVATIONS: (a)Average of 9 groups. (b)Average of 96 groups. From D. Pap (1925) p. 156 .

Figures for Poland are shown in Table 3-6 for wages in the first semester of 1921. The available information for earlier dates is scanty at best: an index computed with the figures for nominal wages and a index for food prices in Warsaw would indicate real wages reaching approximately 15% of their pre-war levels in the first semester of 1919 reaching approximately 50% in the beginning of 1921[83]. The figure for 1918 is confirmed by a historian that reports that real wages in Warsaw in the second semester of 1918 had reached 17% of the real wages for the first semester of 1914 using the same price index; yet by considering an enlarged cost of living index, including fuels, rent and lighting - services for which there were subsidies - and also industrial goods, this figure is raised to approximately

Table 3-6
Poland: Indexes for Real Wages, 1921
(1913=100)

	Jan.1921	Apr.1921	Jul.1921
bricklayers	77	96	71
building (skill.)	68	88	69
building (unsk.)	92	120	110
weavers	72	81	53
spinners (female)	102	117	76
printing	82	140	95
breweries(skill.)	66	100	78
breweries(unsk.)	75	116	90
bakeries (skill.)	65	95	90
bakeries (unsk.)	66	102	110

SOURCES: From ILO (1925) pp. 116-117.

40%[84]. Wages recovered very strongly from these low levels up to a peak in the spring of 1921, when for many categories wages had even made substantial gains over pre-war

[83] These nominal wage figures correspond to an index that includes wages paid for skilled and unskilled workers in the metal, printing and coffee industries and public works. From J. Szturm de Sztrem (1924) pp. 391-392.

levels[85]; these gains were actually very significant in view of the adoption of the eight-hour day late in 1918. From then on the acceleration of inflation and partial wage indexation would bring real wages to levels of about 50% of their pre-war levels in December of 1923[86]. Like in Germany, the stabilization would determine a sharp increase that would eventually establish levels comparable with those of 1914[87].

Table 3-7
Austria: Indexes for Real Wages, 1920-1921
(1913=100)

	Dec.1920	Dec.1921
Wood (skill.)	58	108
Metals (skill.)	69	64
Metals (unsk.)	86	77
Building (unsk.)	49	106
Printing (skill.)	58	97
Taylors (male)	50	62
Taylors (female)	44	55
Bricklayers	36	86
Carpenters	35	-

SOURCES : ILO (1925) p. 87 and ILO (1926) p. 41.

Table 3-7 reports the figures for Austria for 1920 and 1921. Again there is little indication on real wages immediately after the war; it is only observed that sliding scales made their first appearance in 1919 and that most likely slight gains were made from then to 1920; in fact these apparently small wage gains were important in view of the adoption of the eight-hour day in 1918[88]. In any event, the real wages observed in the table for 1920 are very low and again one observes a very strong drive towards pre-war levels that were effectively reached by many categories in the end of 1921. The system of wage indexation implemented in 1921 has certainly contributed to this outcome, but it could not prevent the acceleration of inflation to reclaim some of this gains[89]. After the stabilization, as observed in Poland and Germany, and to a less extent in Hungary,

[84] Z. Landau (1968) p. 195.
[85] ILO (1925) p. 114 , J. Szturm de Sztrem (1925) p. 393.
[86] ILO (1925) pp. 115-116.
[87] See Table 9-3 .
[88] C. A. Gulick (1948) pp. 151-154 *passim* .
[89] ILO (1925) pp. 87-89.

workers regained pre-war levels very quickly[90], which actually represented a significant progress in view of the reduced working day.

These violent swings in real wages are hardly explained by changes in unemployment. In fact the fluctuations in the level of employment are really very small during the hyperinflations; significant changes are only observed during austerity oriented stabilization attempts such as Erzberger's in 1921 Germany, Hegedüs in 1921 Hungary and Michalski's in 1922 Poland. For Germany, no correlation between wages and unemployment could be found, and for Austria and Poland a significant, though not very strong, positive correlation was observed[91].

The behavior of real wages during the inflation period seems overwhelming determined by workers' capacity to build defenses against inflation[92], and these depended on the gradual adoption and improvement of wage indexation mechanisms and also on the possibilities of recontracting base wages. During the early post-war period these factors would be remarkably influenced by a number of new developments related to the strength of the labor movement, the institutional channels of collective bargaining and the overall social and political atmosphere of the early 1920s. It is especially relevant for our purposes to consider the massive incorporation of organized labour into systems of collective bargaining supervised by the government[93]. This is illustrated at first instance by the phenomenal increases in trade union membership after the war reported in Table 3-8.

Table 3-8
Trade Union Membership , 1914-1920
(thousands)

	1914	1918	1919	1920
Austria	147	413	772	901
Hungary	107	721	722†	152
Germany	2.437	2.184	6.527	9.163
Czechoslovakia	55	161	657	-
Italy	962	-	1800	-
Switzerland	50	177	224	-
U. K.	2.400	6.645	8.024	-
France	1.026	2.000	2.500	-

SOURCES: ILO (1921a) pp. 2-3 and (1921b) p. 3, C. A. Gulick (1948) pp. 258-259, J. Vagö (1925) p. 347 and G. Bry (1960) p. 32.† average during the year.

[90] See Table 9-3.
[91] The econometrics of wages, unemployment and inflation is discussed at lenght in chapter 5.
[92] ILO (1925) p. X.
[93] C. S. Maier (1975) p. 11.

The tendency pictured in the table is very strong in Europe, but it is also observed in all industrial countries[94]. It is but one indication of the deep social transformations accelerated by the war and reinforced in some countries by the breakdown of the great empires in Europe. In Austria and Hungary the increases in unionization are even more impressive if we consider the reductions in population and territories determined by the Peace Treaties: Austria in 1914 had 30 million and Hungary 21 million inhabitants; in 1919 these figures would be reduced to 6.5 million and 7.6 million respectively[95]. As percentages of the economically active population the degrees of unionization would be of 29.2% of Austria in 1920, 19.8% for Hungary[96] in 1919 and 28.4% for Germany[97]. There are no comparable figures for Poland before 1925; in this year union membership reached 1,153 thousand representing approximately 16% of the economically active population[98]. These numbers are comparable to those of today, which is indicative of the rapidity of the transition from the backwards systems of industrial relations of the German and Austro-Hungarian empires to modern institutions.

The remarkable strengthening of organized labor was simultaneous with the passing of sweeping reforms in labor legislation including, for instance, the eight-hour day, the recognition of the workers' councils and the unemployment insurance, in addition to the establishment of machinery of collective bargaining, arbitration and conciliation[99]. The latter is especially important for our purposes, for it bears direct relation with wage setting. Table 3-9 reports the figures pertaining to the increase in the coverage of collective agreements in Germany after the war. No comparable data could be obtained for the other countries, though the indications are that similar developments took place - with the exception of Hungary, which was an authoritarian rule - namely an astonishing increase in the coverage of collective agreements.

These developments would acquire a particularly progressive character in Germany

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[94] ILO (1921b) *passim.*

[95] See Table 2-2.

[96] The sharp decrease in unionization observed in Hungary in 1920 is due to the defeat of the communist regime and the ascendancy of a right-wing dictatorial regime that promoted vast persecution of labor leaders and unions. On Admiral's Horthy regime's persecution of unions see ILO (1921c).

[97] Considering population figures from B. R. Mitchell (1978) pp. 51-55.

[98] Republic of Poland (1930) p. 329 and B. R. Mitchell (1978) p. 58.

and Austria where these changes reflected not only the institutional accommodation of an increased labor activism but more importantly it reflected political compromises providing the foundations of new parliamentary democracy experiments following the revolutionary upheavals after the war. The reformist and conciliatory character of these compromises certainly reflected the concern with the revolutionary alternatives provided by the Bolshevik experience in Soviet Russia and also in Hungary. The threat of communist take-over was very concrete in 1918 -1919; attempts had been made in Austria and Germany and a communist government indeed took power in Hungary in 1919. The strengthening of the socialists, or of the social democracy, seemed the only effective alternative within a democratic government. Indeed the role of unions and socialist parties in the Weimar state, as well as in the new Austria, would be paramount; the social democrats would emerge from the war as the largest single party in both countries[100] and would control most coalition cabinets in Austria and Germany during the inflation/stabilization years.

Table 3-9
Germany: Collective Agreements, 1914-1924
(thousands)

Year	Agreements	Estabs. covered	Workers covered
1914	10.9	143	1.399
1920	11.0	272	5.986
1921	-	364	8.630
1922	-	552	11.072
1923	-	718	12.290
1924	8.8	813	13.135

SOURCES: G. Bry (1960) P. 42 and P. Taft (1952) p. 285.

These developments also took place in Poland and Hungary though with some important variations. For Poland the problem of setting the proper institutional arenas for political parties and for industrial relations was a major problem not at all unrelated with their effort of nation building[101]. To a great extent Poland followed the progressive trends in labor and social legislation observed in Austria and Germany; despite some tensions arisen out the of the predominantly agricultural character of some parts the country, especially in the Russian and Austrian partitions, all the major gains obtained by workers elsewhere in Europe could also be enforced in Poland. The eight-hour day was

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[99] ILO (1921c) pp. 8-9.
[100] To judge from election returns in 1919 in both countries. *Cf.* F. Ringer (1969) p. 29 and C. A. Gulick (1948) vol. I p. 690.
[101] J. Rothschild (1974) p. 46 *passim*.

established in November of 1918, doles and social securities were obtained in 1919 and, most importantly, the introduction of obligatory collective labor contracts in all sectors, including agriculture, was secured before 1920 was over[102].

For Hungary the early post-war period resulted very unfortunate. The progressive winds would affect very strongly the backwards, nationalist and militarist Hungarian society. The socialists and their unions would appear as the strongest political force emerging from the war, but they failed to vindicate the progressive aspirations of workers and could not stand the blow represented by the ratification of the Peace Treaties[103]. A communist government followed, the Dictatorship of the Proletariat being officially proclaimed in June of 1919. Labor legislation advanced much beyond what had been accomplished in Germany and Austria, but the violent overthrown of the Bolshevik government would bring a right wing dictatorship that would reverse all advances made. The eight-hour day, for example, would be repealed and would be reintroduced only in 1935. The backwards labor legislation, the weak union organization and not the least of it, the depressed level of wages throughout the 1920s, could be directly associated with the new regime[104].

Hungary apart, it seems hard to conceive such strengthening of the labor movement and the progressive tenor of the early 1920s to be compatible with a major income redistribution against labor as had taken place during the war and as seemed required by the severe adjustment problems these countries faced. In fact all social-political developments would seem to point towards a sharp increase in the labor's share of national income. The data in this regard is only available for Germany and fully confirms the conjecture: the share of wages and salaries of the national income averaged around 46.5% during 1910-1913 and in 1925-1927 it averaged a little less than 61%[105]. It seems very likely that the same occurred in Austria and Poland, which is more or less indicated by the fact that after the stabilization real wages made considerable gains up to the late 1920s despite the eight-hour day.

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[102] Z. Landau & J. Tomaszewski (1985) p. 54-56 . See also F. Zweig (1944) pp.139-150.
[103] J. Rothschild (1974) p. 141 *passim* .
[104] I. T. Berend & G. Ránki (1974b) pp. 158-163.
[105] A. Jeck (1968) pp. 83-88.

It is fair to say that the principle of "the return to the pre-war normalcy", often found in the discussion around the fixing of exchange rates in the early 1920s, is commonly observed as regards the level of real wages. That pre-war levels of wages seemed a very clear target of the labor movement seems confirmed by the stated objectives of unions. Even more that that, however, workers in Germany pointed out that "as the purchasing power of gold was lower [or that the real exchange rate had depreciated], their standard of life would not be the same even if nominal wages were fixed at their pre-war rate. They further declared that their wages had been reduced to an exceptionally low level by the depreciating action of inflation, and it was high time [after the stabilization] for the injustice which they had suffered to be remedied"[106]. Pre-war real wages became an obvious target and in Poland it had even become legislation: in 1923 the government passed a law turning compulsory the application of sliding scales in all collective agreements provided that real wages were below the levels of 1914[107]. But more importantly, however, the fact that pre-war level of real wages was the target is revealed by the fact that it was quickly approached, and even regained, in every brief spell of price stability prior to the runaway phase and that, except for Hungary, pre-war levels were fully regained in a few months after the stabilization.

3.5) Conclusions

The wage problem was a serious obstacle to adjustment. We saw in section 2-6 that real wages at the end of the war fluctuated between 40% and 60% of pre-war levels and that a strong drive towards pre-war levels could be seen very early after the war. The inconsistency between external balance and the goals of the labor movement was overwhelming; this problem was at the very root of the inflationary explosion, yet it is entirely absurd to blame workers for the inflation. Capitalists could be equally blamed, if one's interest is to establish some form of guilt by association. Most importantly is to observe that inflation is a process in which every actor plays its own interest so that basically the outcome is no one's specific fault. The true challenge is the removal of the

[106] ILO(1925) p. 79.
[107] *Ibid*. p. 126.

constraints that preclude the reconciliation of interests; this chapter attempted to specify inconsistencies, the following ones would show how they managed to be eliminated.

Adjustment in the absence of foreign capital would be very problematic for all hyperinflation countries, problems like commercial policy in the Danubean area, the rescheduling of reparations, and modernization of agriculture, for example, were incredibly difficult to address. Yet "outside" factors like the authoritarian government in Hungary, the annexation of Upper Silesia to Poland and the Dawes Plan would either represent major improvements in these countries external positions or, as in the Hungarian case, remove the obstacles imposed to more painful forms of adjustment.