

An Analysis of German Economic Prosperity at the Beginning of the 21st Century

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Abstract. Since the 1970s, Germany has been experiencing a slowdown in economic development. After that and a severe structural imbalance in the economy, all of which indicated that the German economy was in serious trouble. However, the beginning of the 21st century has seen a significant change in Germany's economy, with the number of unemployed people at record lows and economic growth during the financial crisis. How did Germany manage to do this? This article focuses on the measures taken by Germany to the unification of the two German states at the end of the 1990s. The economy was affected to the point of near stagnation. By 1998, there were more than 4 million unemployed people and an unemployment rate of 10%, accompanied by high labor costs, a nearly destroyed industrial base, achieved economic prosperity, analyze the reasons behind its success at both the domestic and international levels, take into account the similarities with the post-reform and opening-up economy in China, and conclude the paper with a summary and reflections, as well as discussing the lessons that can be learned for China's economy.

Keywords: Germany; economic growth; reform measures

1. The German economic context at the beginning of the 21st century

After reunification in 1990, the German economy deteriorated to the point of stagnation in the face of rapid external globalization, accelerated internal industrial restructuring, and various economic problems. On 1 July 1990, the German government abolished the East German mark and converted it into the West German mark at an exchange rate of 1:1 to 1:1.3.[1] This rapid monetary integration led to a rapid appreciation of the East German mark, which significantly weakened the competitiveness of the East German mark in the international market and led to a rapid decline in domestic production and employment. At the same time, significant differences existed between East and West Germany itself. After reunification, large numbers of well-educated and skilled people began to leave the East for the West, leading to a massive loss of labor from the East and an oversupply of labor markets in the West. This population transformation led to a considerable loss of labor in the east and an oversupply of labor in the west. The same period of low investment in the east also led to a sharp rise in unemployment in the east, which put a huge financial strain on the government of the day in terms of unemployment and pensions. In response, the German government had to move away from a market economy to a Keynesian approach to state intervention. In 2003, the Hartz Act and Agenda 2010 reformed the German economy. [2]In the following section, the reform measures taken by the German government will be analyzed as the reasons for their success.

2. Measures taken

2.1 Domestic factors

(1) The impact of the education system

"The Dual System is a German system of vocational education in which a private company acts as the "one element" and a state-run school as the "other element," cooperating to develop skills. [3]The Dual System is a system of vocational education that integrates university education with business practice, and its emphasis on the practical aspect sets it apart from the mainstream of traditional university studies. The dual vocational education system emphasizes the development of comprehensive vocational competence and professionalism in addition to basic professional and social competencies. The duration is 2-3.5 years, and the target group is generally secondary school graduates, who spend about 35% of their time in school and 65% in the company; students learn the theoretical knowledge at school and then go on to practical training in the company. Instead of simply providing job training, this strategy is based on occupational demands and fundamentally provides vocational training for young people to gain vocational abilities. In summary, dual vocational education is a model of vocational education that combines practical work-based learning in companies with work-based expertise and general cultural knowledge in vocational schools to develop skilled personnel.[4]

(2) Acts enacted for the workforce

It has been argued that the so-called labor market reform in Germany is essentially a reform of employment and related social security policies and that the enactment of the Hartz Act has made a marked improvement on the depressed labor market.

The Federal Labor Office system was revamped by Hartz. Firstly, it was renamed the Federal Employment Service, with 178 branches and 660 customer service centers throughout the country; secondly, its board of directors was made up of tripartite representatives of employers' federations, trade union federations, and the government, who led the implementation of a non-profit business form of operation. The agency plays an important role in implementing the active employment measures provided for by law, providing training and employment information, advice and guidance, referrals and placements, and granting unemployment benefits.[4]

Its impact on social security policy cannot be avoided. The first of these concepts is Unemployment Benefit I, which is payable for a maximum period of 12 months, with extensions only possible for those aged 55 and over; its counterpart is Unemployment Benefit II, which in principle is available to anyone who can apply for it if their current income, and Unemployment Benefit I, is insufficient to meet their 'minimum survival needs,' although the standard of treatment is no longer as is generous, Unemployment Benefit II is only available to the unemployed if they are willing to accept a job at a lower wage level. Theoretically, they are able to apply for it as long as their income to expenditure ratio is at a certain level. Everyone claiming Unemployment Benefit II should not be too picky about new jobs when looking for work. Any job that is reasonable must be accepted, and unjustified refusal may result in a reduction in payment. The conditions for 'reasonable work' are pretty generous, and basically, any work that does not violate good customs is considered reasonable. This has led to a basic quality of life for German workers.

(3) Exports and investment for economic development

Exports, like outward investment, are an important aspect of the German economy's reform, with German corporations considering exporting to emerging countries ahead of most of their peers in reaction to the home economy's rigidity and the anticipation of diminishing domestic demand.[5]As a result, they are able to provide countries experiencing an investment boom with higher-quality and more competitive goods and services. Over 1,800 German companies have invested in over 3,500 projects in Eastern Europe since 2003, resulting in the creation of over 650,000 employees. Germany became the leading supplier of imports into Eastern Europe in 2003, quadrupling the market since 2000. Germany surpassed the United States as India's primary source of machinery imports in 2005, quadrupling the market's worth. Germany has been the top exporter of automobiles to China since 2001, with imports increasing 18-fold during the same time period. Germany's actual exports increased by 76 percent in the seven years leading up to the financial crisis, compared to about 20 percent for other countries.

2.2 International factors

(1) European Monetary System

Officially in federal circulation since 1948, the Deutsche Mark was initially the weakest of the Western European currencies. However, after free convertibility in 1958, it took just 15 years to overtake the British pound as the world's second-largest reserve currency. Some scholars attribute the internationalization of the mark to low inflation and a credible monetary policy, the gradual deregulation of financial markets in the mid to late 1980s, and Germany's share of international trade, a logical evolution in its own right; yet another view is that the 'excessive privileges' of the dollar have placed a heavy strain and burden on Europe, and particularly on Germany. The internationalization of the mark was directly driven by the heavy pressure and burden placed on Europe, particularly Germany, by the 'excessive privileges' of the dollar. In short, the rising international status of the mark and France's sensitivity to this asymmetry in the regulatory mechanisms of the European monetary system and the consequent establishment of German 'monetary hegemony' led to the introduction of a unified monetary system, the euro, in the first year of German reunification. The fact that Germany stopped using the mark and created the euro together with other European countries does not mean that the mark has receded from history. The euro is essentially another manifestation of the mark, which has contributed to Germany's power on the international money market, as can be seen from the fact that the governance of the euro and the philosophy of monetary policy are identical to those of the mark.

(2) Business expansion of German companies in Asia

According to incomplete statistics, there are now more than 9,000 German subsidiaries operating in the Asia-Pacific region, and local leadership seems to be the secret of German success in other regions. Most German companies will appoint local leaders and non-German expatriates. Cost, compliance, market understanding, and the ability to adapt the operating model to a challenging environment are key factors in the hiring decision. Initially, there was a trust deficit between them and the Asians. Whereas the Germans need to develop trust, which takes time, they tend to send Germans first to build up developing capabilities and then hire local people to adapt to the market. The Germans would bring a corporate culture and help the locals understand their business. Moreover, as trust was gained, German industry gradually moved to Asia, where a number of 'German factories' were set up, and efficiency was increased while German high technology was extended and broadened.

3. Analysis of reasons for success

3.1 "Dual" vocational education

From an economic perspective, companies need to make a profit; from an educational perspective, schools need to educate people. The dual education system strikes a balance between the business needs of companies and the public welfare needs of schools. It is based on the work processes of companies, which helps to keep vocational qualifications up to date with the latest technological developments. In contrast, learning based on national standards is conducive to individual needs and career development for employment and entrepreneurship. It can be said that the "dual system" produces highly qualified German professionals and skilled workers and is the guarantee high-quality "Made in Germany." The cornerstone of Germany's economic development is "dual" vocational education. It is also the German education system's "flagship" and a source of hope for lowering youth unemployment around the world. For companies, dual vocational education has the following benefits: it guarantees the demand for skilled personnel for economic development, reduces the time and costs of entry, and at the same time increases the interest and trust of future employees in the company, providing them with the vocational qualifications they need and contributing to the production of the company. "The "dual education" approach is the secret weapon of the German economy and solves a problem that cannot be solved by a general academic education. The definition of 'vocational' is 'professional' and not simply induction training. Unlike university education, which focuses on

theoretical studies and academic subjects, dual vocational education is more focused and emphasizes the practical skills of students. Students at the University of Applied Sciences study the same content as their peers, with an increased emphasis on practical studies, and usually graduate a semester later than their non-dual counterparts, but with two certificates - a vocational bachelor's degree and an IHK vocational skills certificate. "The dual education system provides students with a practice-based approach to learning, which not only keeps the country's industry up to date with the latest technology but also meets the individual needs of students. [6]

3.2 Labor force

Since 1980, the unemployment rate in Germany has been rising up to 10%, with a high proportion of long-term unemployed among them. After the enactment of the Hartz Act at the beginning of the 21st century, this figure has fallen slightly and has continued to do so; the government deficit is expected to fall to 1.5% of GNP in 2007-2008, which is inseparable from the improvement in the employment situation in Germany. In her televised speech, she remained optimistic about Germany's economic prospects, based on the adjusted forecasts of a committee of economic experts.[7] As a result of this series of laws, the unemployment rate in Germany has fallen significantly as a result of the increased willingness of workers to take up employment and the strong demand for labor resulting from economic growth. The reasons for this are the strength of the Hartz Act's implementation, which has led to a rapid response to grassroots reforms, and its innovative nature, which has seen employment and related social security policies reformed in a way that has been highly effective in improving public efficiency, while also largely protecting the unemployed from marginalization or discrimination. In conclusion, Germany has made significant improvements in economic efficiency through job market reforms, which are essential for the maintenance of social equity and justice.

3.3 Euro and Mark

The policy of replacing the Deutsche Mark with the Euro has greatly increased Germany's industrial competitiveness. This meant that Germany was able to trade on the international market at a more favorable exchange rate, whereas prior to currency unification, there had been a lot of bidding down of currencies between European countries.[8] Germany's trade surplus grew at a high rate after the introduction of the euro, while most other countries showed a trade deficit at the same time, indicating that German manufacturing had firmly established itself in most markets, as the graph below illustrates well. The euro has given the German economy a much more competitive advantage than it would have had if the mark had been used. Other countries that use the euro are also able to 'piggyback' - financing themselves in the capital markets at lower interest rates than they would otherwise be able to do with their own currency at such low rates - meaning that their dependence on Germany is gradually increasing.

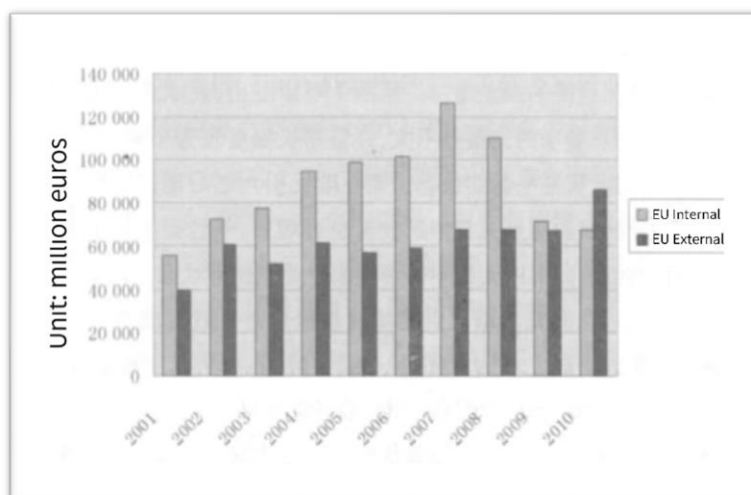


Figure1. Distribution of the sources of Germany's trade surplus 2001-2010. (n.d.). [9]

4. Problems and solutions.

4.1 Problems arising from the reform

The Hartz program was launched in 2002 to address the heavy burden of the economic recession and mass unemployment on German social welfare. The Hartz program was divided into four phases, Hartz I and Hartz II, launched in 2003, Hartz III in 2004 and Hartz IV in 2005. The series of policy reforms in Germany has had a profound impact on the domestic labor market.

The Hartz IV program focuses on the reform of unemployment benefits. For those who cannot make ends meet, the government has introduced social assistance payments. These people receive between €382 and €224 per month, provided they take up a designated job. The government initially tried to force the unemployed to take bottom-paid jobs by reducing their subsidies, thus reintegrating the long-term unemployed into the market economy. On the face of it, the unemployment rate in Germany has indeed been reduced. The unemployment rate fell from 11.17% in 2005 to 7.53% in 2008. However, when looking deeper behind these figures, it becomes clear that Germany has not actually solved the unemployment problem in the country. Figure 1 implies that Germany's long-term unemployment rate is still high.

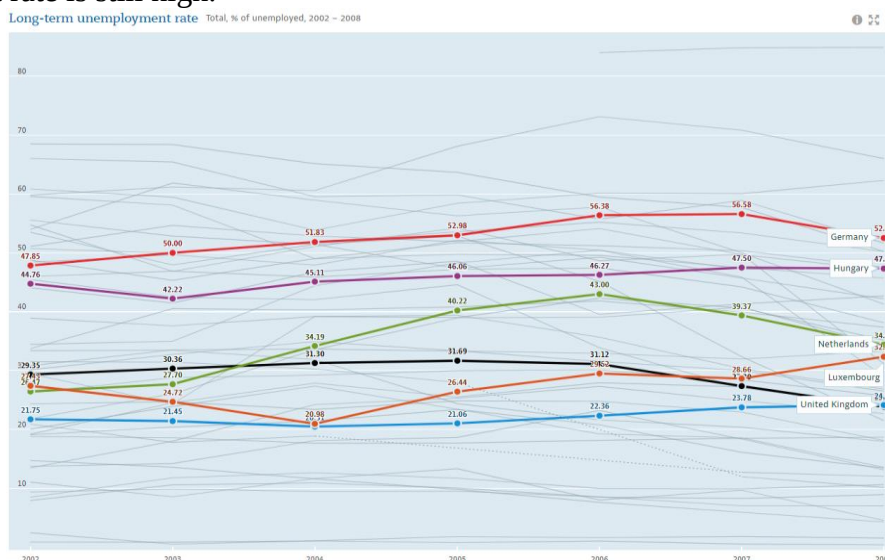


Figure 2. Germany unemployment rate 1991-2022. (n.d.). [10]

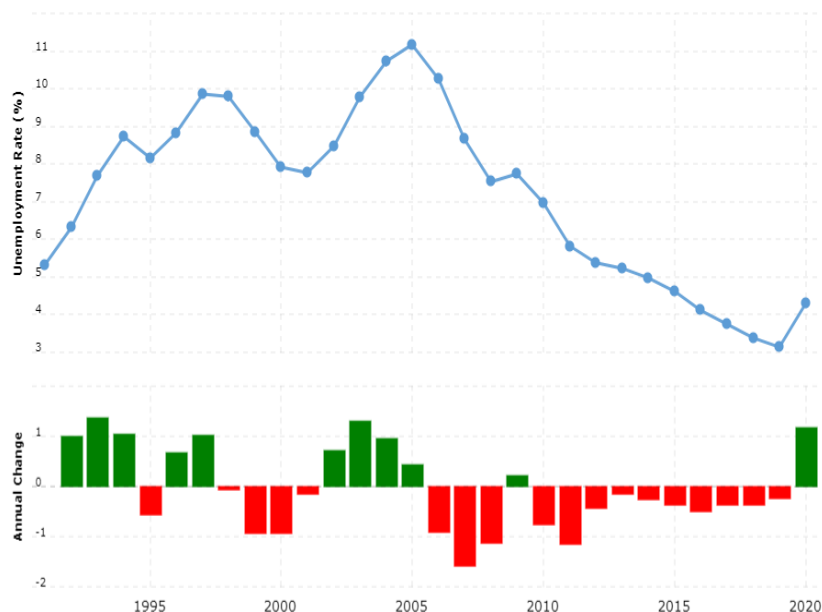


Figure 3. Global unemployment rate 2002-2008. (n.d.). [11]

This indefinite social welfare guarantee brought about by the Hartz Act is in disguise, encouraging a state of long-term unemployment. The apparent unemployment rate is falling at the expense of the socially disadvantaged classes. The low-wage job market in Germany is expanding without bounds [11], and the Hartz IV program has made the unemployed more willing than ever to accept low wages and labor conditions. Wage levels in Germany have generally fallen back. Many unemployed people now even accept low wages, making it difficult for them to make ends meet. As a result, the government has had to provide subsidies to bring their incomes to at least the benefit level of the Hartz IV program.

At the same time, the German economy is characterized by a high degree of exposure to foreign countries through exports and imports. [12] In response to the rigidity of the domestic economy and expectations of declining domestic demand, Germany focused on exports to emerging markets earlier than most other countries. The fact that more production chains are located abroad has further increased Germany's competitiveness. Over 1,800 German companies have invested in over 3,500 projects in Eastern Europe since 2003, creating over 650,000 jobs. Exports make an indelible contribution to the German economy. However, with the development of the export business, Germany is gradually becoming dependent. The balance between the export industry and the German domestic industry was broken. With a low labor force and a huge demand for exports, Germany's domestic industry was hit hard. Germany's exports and imports resulted in a huge trade surplus. The export share of Germany's GDP was increasing year on year.

Stimulating domestic consumption levels is an obvious solution to the huge trade surplus. However, the German people prefer to save money as opposed to spending it. Rumsfeld, a member of the committee of economic experts advising the German government, says that this behavior makes more sense than it seems because of the aging of German society. With the baby boomers approaching retirement, investment risk is a concern. It makes sense to save cash when interest rates decline. However, this overly conservative approach does not bode well for the economy of Germany, which is in the midst of a rapidly aging population.

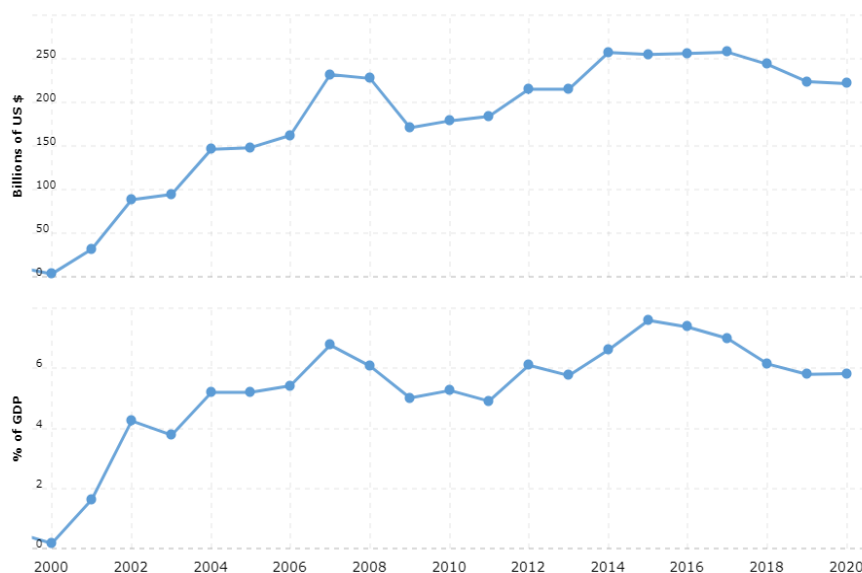


Figure 4. German Export percent of GDP 2000-2020[14]

4.2 Improvement can be taken

(1) Public infrastructure investment

There is a decline in the quality of Germany's infrastructure. By improving infrastructure, Germany's growth potential, domestic revenues, spending, and employment demand will increase, cutting its surplus.

(2) Work system and system optimization

Higher wages for German workers. Higher female labor force participation. Longer working lives. Higher public spending. Better integration into the labor market. German workers deserve a significant pay rise, which could be given by a partnership between the government, employers, and trade unions. Higher salaries in Germany can hasten cost-of-production adjustments while also boosting domestic earnings. Both have the benefit of lowering the trade surplus.

(3) Increase domestic spending

Increase tax incentives for domestic private investment. Reduce impediments to new housing development. Reform the retail and service sectors. Revise banking restrictions that could encourage German banks to invest abroad rather than at home.

(4) Optimize the domestic welfare system

Review possible investments and business practices using the welfare system. Establish, for example, social security systems for old age, medical care, nursing care, cash, education, resource subsidies, and tax benefits for families with minor children to target solutions to the aging population. Train refugees in vocational skills and convert young refugees into an effective workforce.

5. Similarities between the German economy at the beginning of the 21st century and China's post-reform and opening-up economy

5.1 Large differences in the level of economic development between regions

After the reunification of Germany, the inflexibility of the centrally planned economic system in East Germany led to the possibility of inaccuracies in the distribution of directives from various departments to the local level, which hindered the pace of economic growth. Meanwhile, the brain drain to West Germany after reunification had an impact on the already weak industrial base of East Germany, further widening the regional economic disparities between the two Germany. At the time of reunification, the East accounted for only about 10% of GDP and 30% of the labor productivity of the West. In contrast, after China's reform and opening up, the concentration of open areas as well as open cities in the southeastern coastal region has further widened the gap in economic development levels with western China, where the primary sector has reached 5% in the east, which is already at the level of developed countries, and over 10% in the midwest of China, leaving a gap of around 20 years with the east. Through the urbanization rate, the gap is even more significant, with the eastern region approaching 70% and the midwest regions only 50%. It's a difference of 20 points, which implies a gap of nearly two decades, with a huge difference in economic growth between the east and west.

5.2 Both governments play an important role in economic development

Germany has elevated coordinated regional development to the same status as the Basic Law, which stipulates that the highest objective of regional promotion policy is to create equal living conditions in different regions and that reducing regional differences is a shared task for different levels of government.[14] In the Regional Promotion Policy proposed by the German government, the government emphasizes the need to help regions with backward economic structures to improve their own conditions, optimize their industrial structures and narrow the gap in economic development between regions. The German government monitors this policy, and the states are also required to report to the Federal Ministry of Economics every month on the use of funds. Furthermore, reform and opening up are also one of China's basic state policies. The Chinese government has directed and opened up the coastal economic open zones and has also enacted a series of specific reform measures, including the reform of state-owned enterprises.

6. Implications for the Chinese economy

With reference to the course of economic and economic reforms in the German economy at the beginning of the 21st century, China can address some of the current problems of the economy by focusing on the following points.

6.1 Optimising entrepreneurial environment

Compared to Germany, the overall entrepreneurial environment in China is not as satisfactory as it could be, especially in recent years when the real economy has suffered greatly under the impact of the global covid epidemic. As a whole, the entrepreneurial environment in China is unsatisfactory. The actual economy in China has been weakening over the last two years and is saturated in the vast majority of industries, with a lack of quality entrepreneurship with innovative capabilities. At the same time, some of China's government officials are irresponsible, which is not conducive to entrepreneurship. In addition, the state should continue to improve the preferential policies to help entrepreneurs to start their own businesses and also learn from the German experience by granting start-up grants.

6.2 Accelerating labor market reform in China

China needs to liberate more labor. In China's agriculture, the degree of mechanization is insufficient. There is still a large part of agriculture that is still done by human labor, which binds numerous laborers. There is a need to continuously promote the reform of agricultural mechanization, encourage townships to build their own enterprises, and bring farmers together for large-scale and industrialized production. This will not only improve the efficiency of agricultural production but also liberate more rural labor and strengthen the level of urbanization in the country. It is also vital to promote cross-sectoral and cross-regional mobility of labor, the integration of urban and rural labor markets, and lower the threshold for rural people to settle in cities.

Employment should also be encouraged to increase our employment rate. In Germany, the Mainz model, in which wage subsidies are provided to those who are willing to work on a very low income,[15] has greatly increased the employment rate. There is still a large group of unemployed or ultra-low-income people in China, and the government should provide them with appropriate subsidies and promote their employment by providing them with appropriate tax relief and social security contributions to increase their willingness to work.

6.3 Optimizing regional differences in China's economy

In the face of regional economic disparities after reunification, the German government has focused on providing substantial subsidies for investment in manufacturing and infrastructure, which has significantly boosted the economic prosperity of the eastern part of China and reduced the economic gap between the east and west and has introduced corresponding legislation to optimize the structure of investment between the regions of the country. In 2009, the GDP per capita of the eastern states had increased to 71%, and the disposable income per capita had increased from 60% to 80%.[14] In the face of the economic disparities between regions, China should continue to pursue its western development strategy and strengthen infrastructure development, education, ecological protection, and industrial restructuring in the western region. It can also be combined with China's Belt and Road development strategy to boost the economic growth level of the western belt and road regions, thereby gradually reducing the regional economic disparities between the eastern and western parts of China.

7. Conclusion

This paper examines the reasons for Germany's economic boom at the beginning of the 21st century from both a domestic and an international perspective. The analysis of the reasons for success is followed by recommendations for development in the specific case of China. There is no doubt that

the economic reforms undertaken in Germany have been very successful. As a whole, the German economy has developed gradually, driven by exports. Therefore, the development of the German economy also depends to a large extent on the changes in the overall economic situation in the world. In the post-Covid era, the globalization that has been taking place for decades is beginning to shift towards localization, and the German economy, which is largely dependent on exports, is bound to be affected to a certain extent. In this regard, Germany should also appropriately adjust and optimize its own economic structure in line with the international situation and promote the further development of its economy.

References

- [1] Sun Xiaofeng. The development of lagging regions should give full play to regional advantages - the inspiration for rebuilding the eastern economy after the reunification of Germany[J]. *Economic Issues*, 2000(10):22-24
- [2] Wang Shuang. (2016). Review and reflection: a review of the literature on the Hartz reforms. *Xian Dai Shang Mao Gong Ye = Modern Business Trade Industry*, 37(25), 74-75.
- [3] Kang, Da-Yuan. (2013). German "dual system" vocational education was reinterpreted. *Vocational and Technical Education in China* (33), 5-14.
- [4] Zheng Xiangrong. (2003). The history, connotation, characteristics, and problems of "dual system" vocational education in Germany. *Research in Science and Engineering Higher Education* (03), 79-81.
- [5] Racy, J. C., Vartanian, P. R., & Vendruscolo, B. D. P. (2019). German Exports, Economic Growth and Foreign Demand: an Analysis of the Period 2000-2017. *International Journal of Business, Economics, and Management*, 6(6), 335-354.
- [6] Zhu Ling. (2008). Promoting employment: Labour market reform in Germany. *China Industrial Economics* (03), 135-142. doi:10.19581/j.cnki.cite journal.2008.03.016.
- [7] Yang, W.G., Gerhard Ehring & Chen, L.K.. (2007). The German "Hartz Reform" and its performance evaluation. *European Studies* (03), 26-37+158.
- [8] Zhao Ke. (2012). The Political Logic of Currency Internationalization - The Dollar Crisis and the Rise of the Deutsche Mark. *World Economics and Politics* (05), 120-141+159-160.
- [9] 'https://www.macrotrends.net/countries/DEU/germany/unemployment-rate ' Germany Unemployment Rate 1991-2022. *www.macrotrends.net*. Retrieved 2022-05-03.
- [10] OECD (2022), Long-term unemployment rate (indicator). DOI: 10.1787/76471ad5-en (Accessed on 04 May 2022)
- [11] Rhein T. (2013) Erwerbseinkommen. Deutsche Geringverdiener Im Europäischen Vergleich, IAB Kurzbericht - Aktuelle Analysen aus dem Institut für Arbeitsmarkt- und Berufsforschung No. 15.
- [12] Görg, & Görlich, D. (2011). Trade and labor market outcomes in Germany (Vol. 125). OECD Publishing. <https://doi.org/10.1787/5kg3nh94z5r8-en>
- [13] 'https://www.macrotrends.net/countries/DEU/germany/trade-balance-deficit'>Germany Trade Balance 1970-2022. *www.macrotrends.net*. Retrieved 2022-05-04.
- [14] 'http://munich.mofcom.gov.cn/article/gjk/201008/20100807060559.shtml' Ministry of Commerce of the People's Republic of China. Retrieved 2022-05-05.
- [15] Chen Hao, Xu. (2016). Implications of Germany's Hartz reform for alleviating structural unemployment in China. *Contemporary Economic Management*, 38(6), 92-97.