Office Memorandum

To: Members of the Executive Board July 11, 2013

From: The Secretary

Subject: **German-Central European Supply Chain—Cluster Report—First Background Note—Trade Linkages**

The attached correction to FO/DIS/13/100, Sup. 1 (7/3/13) has been provided by the staff:

Typographical Error

Page 6, Figure 2, panel "Imports from Germany", legend: for "◆Exports to Germany in Percent of GDP, 2012" read "◆Imports to Germany in Percent of GDP, 2012" Values replaced to reflect imports.

Questions may be referred to Mr. Lall (ext. 36113), Mr. Aiyar (ext. 35973), and Mr. Elekdag (ext. 34835) in EUR.

This document will shortly be posted on the extranet, a secure website for Executive Directors and member country authorities.

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growth, it could in principle pose some challenges going forward. Higher concentration of trade could also imply that the CE4's dependency on the German economy has increased with ramifications for business cycle co-movement and vulnerabilities to shocks. Moreover, sustaining a country's role in the supply chain and continuing to derive the associated benefits could involve policy effort. Policies taken by the CE4 members should ultimately aim to safeguard the benefits of the GCESC while mitigating any risks related to greater exposure to the German economy.

7. This chapter is structured as follows: The next section provides some stylized facts on recent trends in Germany's bilateral trade links with the CE4, and, in light of challenges related to the interpretation of trade statistics in the context of supply chains, it looks at a decomposition of exports into domestic and foreign value added (VA) and assesses how they have changed over time. This section also evaluates Germany's and the CE4's exposure to other countries based on their final consumption and compares it to the exposure under the commonly used gross bilateral trade statistics published in the IMF Direction of Trade Statistics (DOTS). The following section examines the effects of the GCESC on the CE4 countries, with a particular focus on technology transfer, business cycles synchronization, and income convergence. The final section provides concluding remarks.

THE GERMAN-CENTRAL EUROPEAN SUPPLY CHAIN

A. Trends in CE4 Trade Linkages with Germany

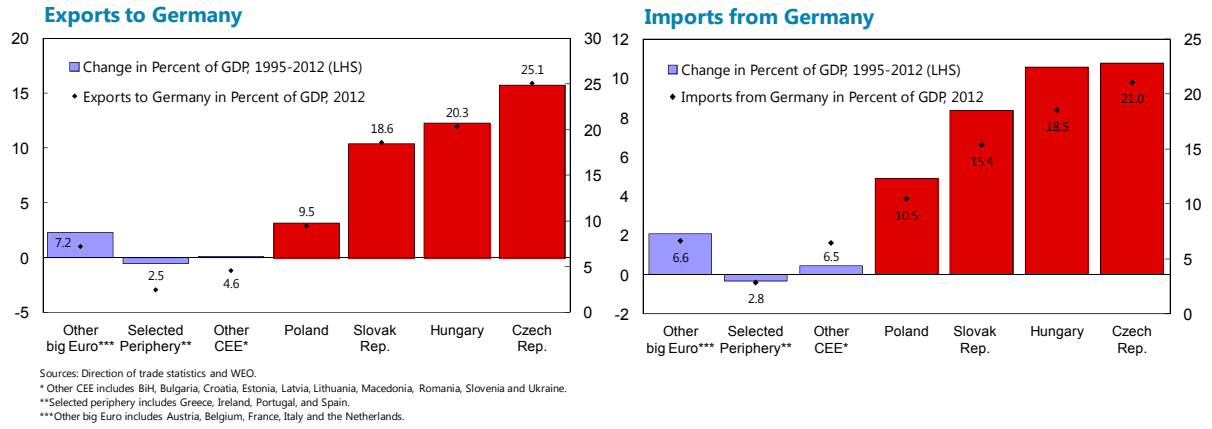
8. The CE4's trade links with Germany have strengthened considerably since the mid-1990s, largely reflecting their increased integration into the GCESC (Figure 2). Between 1995 and 2011, the CE4's imports from Germany grew by 8½ percent of GDP on average (cumulative basis), with Czech Republic leading the way (10½ percent of GDP), while exports to Germany increased sharply by nearly 10 percent of GDP on average. Consequently, Germany has become the main trading partner (with the largest export and imports as a share of GDP) of all the CE4 countries.

9. Compared with other countries, including CEE economies, the CE4 exhibits the strongest trade linkages with Germany. The CE4's average imports from Germany stood in 2012 at 16 percent of GDP, which, apart from Austria–which traditionally has a high German import content–is well above other European countries. Similarly, the average of the CE4's exports to Germany in 2012 stood at 18 percent of GDP, behind only the Netherlands (22 percent of GDP). A closer look at the sectoral level suggests that knowledge-intensive sectors, particularly transport and electrical equipment, account for the CE4's largest bilateral trade with Germany. As documented in the next section, the increased links in these sectors have led to the transfer of technology, which in turn has translated to sizeable gains in terms of comparative advantage.

10. While trends are similar, the CE4 is not a homogenous group (Figure 2). Poland's trade linkages with Germany (as a share of GDP) are significantly less than those in other CE4 countries, largely due to Poland's large GDP (Poland's GDP is about 54 percent of the CE4's GDP) and higher

share of domestic demand, which mechanically dampens the magnitude of the trade intensity with Germany as compared to other CE4 economies. In this regard, although Poland's openness has increased in recent years, it remains a relatively closed economy with the sum of overall imports and exports at 74 percent of GDP (compared to an average of 157 percent of GDP in rest of the CE4 countries).

Figure 2. Bilateral Trade with Germany



Sources: Direction of trade statistics and WEO.
* Other CEE includes BiH, Bulgaria, Croatia, Estonia, Latvia, Lithuania, Macedonia, Romania, Slovenia and Ukraine.
**Selected periphery includes Greece, Ireland, Portugal, and Spain.
***Other big Euro includes Austria, Belgium, France, Italy and the Netherlands.

11. The importance of Germany as a major trading hub for the CE4 is illustrated in Figure 3. The thickness of the arrows represents the share of imports (exports) relative to recipient (exporter) GDP and the bubble size indicates the country's total imports (exports) to GDP. The charts clearly show that, among the major global players, Germany is the largest trading partner for the CE4. For Czech Rep, Hungary, and Slovakia, imports from Germany are between 15 to 21 percent of the countries' GDP while exports to Germany amount to 16 to 24 percent of GDP. For Poland, Germany's exports and imports shares are somewhat lower, due to Poland's higher GDP level and less dependence on external trade, yet with exports and imports at 10-11 percent of GDP, Germany remains Poland's major trading partner.