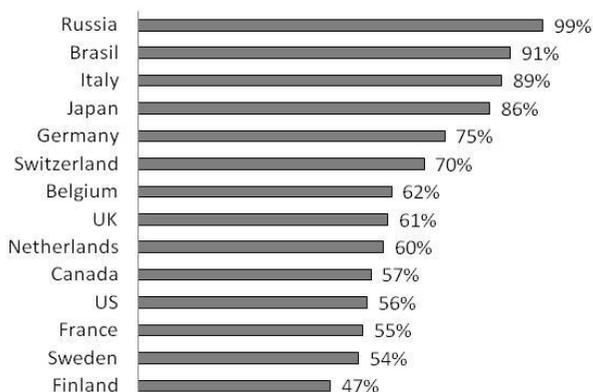# 8 Sprechen Sie cash? National differences in payment instrument usage

While all countries are adopting electronic instruments, there are significant differences in the use of payment instruments. Some of these reflect different development stages, like the adoption of debit cards in the BRIC countries (see Figure 6 in chapter 6). We see a similar pattern in the usage of cash. Figure 1 shows the usage of cash by country. BRIC countries like Brazil and Russia are still using cash for more than 90% of all transactions. Perhaps more intriguing are Japan, Italy, Germany and Switzerland. These are well developed economies that continue to rely heavily on cash. Japan and Italy use cash for more than 85% of all transactions, Germany and Switzerland for 70-75%. Most of the other developed countries use cash for only 55-60% of their transactions.

Country	Share
Russia	99%
Brasil	91%
Italy	89%
Japan	86%
Germany	75%
Switzerland	70%
Belgium	62%
UK	61%
Netherlands	60%
Canada	57%
US	56%
France	55%
Sweden	54%
Finland	47%

Figure 1: share of cash in total transactions, 2008[1]

There are also significant differences among countries in the types of non-cash payment instruments that people use. One of these already was apparent from the discussion on the decline

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[1] Source: Denecker, Savardy (2007)

of checks: the US, UK, Canada and France continue to use checks for a significant amount of payments.
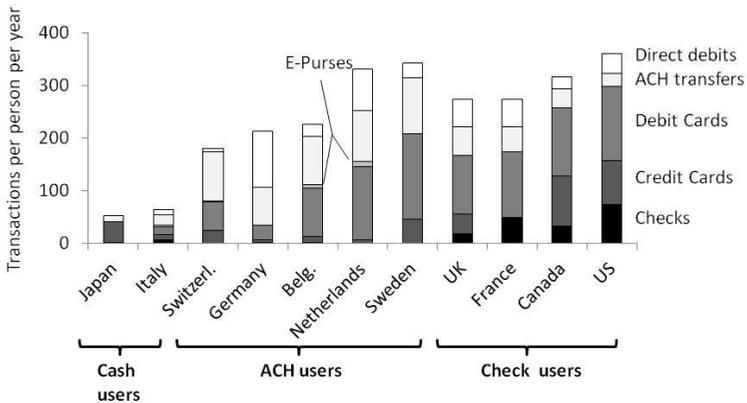

Figure 2: Use of non-cash instruments for G-10, 2010[2]

Figure 2 shows the use of non-cash payment instruments across the G-10 countries. It shows three broad categories: cash-countries like Italy and Japan with low usage of non-cash instruments, the four check countries mentioned earlier, and "ACH-countries" that rely on transfer payments and direct debits. This last category includes many Central and Northern European countries.

An interesting question is whether these differences are likely to disappear as countries move off cash and checks and adopt debit card payments. Perhaps, but it will take a long time. Figure 3 shows the development for checks and debit card transactions since 1998 for the three types of countries. In terms of POS debit card transactions, the gap between the cash countries and the others actually increased dramatically.

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[2] Source: BIS Red books

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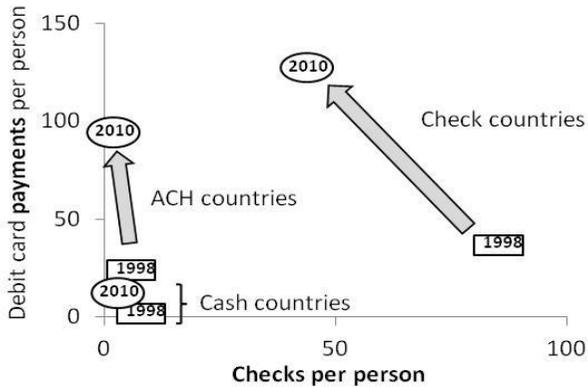
Figure 3: Transactions per person in 1998 and 2010

To some extent, this may be caused by the mechanics of the adoption process as described in the previous chapter. If two countries are on the same S-curve but one country has a head start of a few years, then the difference in usage between the two countries will initially grow; the gap will only start to narrow once the first country is well beyond the midpoint to full adoption. So it is unlikely that cash countries like the BRICs and Italy and Japan will catch up any time soon.

In terms of check use there is some convergence, but at a very slow pace. Hence we should expect countries to retain their distinct usage patterns for the foreseeable future.

Much research has been done into the causes of these differences. For example it has been argued that high cash usage may be related to high taxes and low crime rates. Several comprehensive studies have found at best a weak relationship between safety, taxation and cash usage. Differences in infrastructure, such as the availability of ATMs and POS terminals have also been offered as an explanation, but this seems somewhat circular: more ATMs may well mean more cash usage, but a high usage of cash means that a larger number of ATMs make economic sense. Finally, the pricing of

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instruments could explain the differences.[3] But most payment instruments, including cash, are offered for free to consumers with most of the costs put on merchants or banks. In addition much pricing is hidden and implicit, such as ATM 'roaming' fees and hefty bounced check charges in the US.

An better explanation could be that payment mechanisms are subject to network effects: the more people are using a certain instrument, the more valuable the instrument becomes to all users. We know that such networks are subject to lock-in: once users have settled on a standard it becomes difficult to switch to another one, even if it is better.

Network effects can explain some of the patterns observed in the previous chapters:

- The S-curve type adoption pattern: early adopters establish some critical mass; after that the product becomes attractive to the masses and larger groups of users join.
- Dis-adoption is hard and existing instruments tend to continue to be used for a long time after better alternatives are available: existing instruments have the benefit of critical mass which the newer instruments still need to establish.

Usage patterns differ by country and these differences are persistent: once an instrument has critical mass in a country, why would it change to a standard from another country, especially since cross-border transactions are such a low fraction of total?

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[3] For example Humphrey, Pulley and Vesala (1996).