8 February 2022

SWIFT gpi data indicate drivers of fast cross-border payments[1]

Key takeaways

- *The speed of cross-border payments on SWIFT[2] global payment innovation (gpi) is generally high with a median processing time of less than two hours. However, payment speeds vary markedly across end-to-end payment routes from a median of less than five minutes on the fastest routes to more than two days on several of the slowest routes.*
- *Prolonged processing times are largely driven by time spent at the beneficiary bank from when it receives the payment instruction until it credits the end customer's account. Longer processing times tend to occur in low and lower-middle income countries, which can be partly attributed to capital controls and related compliance processes, weak competition as measured by the number of banks as well as limited operating hours of and the use of batch processing by beneficiary banks.*
- *Cross-border payments on SWIFT involve, on average, just over one intermediary between the originator and beneficiary banks. Each additional intermediary prolongs payment time to a limited extent, while the size of time zone differences between banks has no discernible effect on speed.*

Initiatives such as SWIFT gpi are improving the speed of cross-border payments, but obstacles remain to shortening their processing time to the levels observed for domestic payments. The challenges[3] facing cross-border payments vary considerably between market segments and payment arrangements. For international payments via correspondent banking, SWIFT has developed gpi[4] as a set of business rules and digital tools to improve their speed and transparency. Although cross-border payments on SWIFT gpi are fast, their speed varies significantly across end-to-end payment routes. Using a novel data set, this paper analyses how country-level and bank-level factors such as capital controls, bank offline hours and the number of intermediaries help explain these differences in payment speed.

[1] This article was prepared by Thomas Nilsson at the BIS Committee on Payments and Market Infrastructures (CPMI) Secretariat, Regis Bouther at the Bank of England (BoE), Michiel Van Acoleyen at the National Bank of Belgium (NBB), and Lior Cohen at the Society for Worldwide Interbank Financial Telecommunication (SWIFT). The authors are grateful to Ilaria Mattei, Thomas Lammer and Tara Rice at the CPMI Secretariat; Neil Pearston at the BoE; Tim Stevens, Nikolai Boeckx and Jan Vermeulen at the NBB; and Tom Jacobs, Thomas Petit, Shadman Moin, Daniel Lee, Julien Mathieu and Astrid Thorsen at SWIFT for excellent analysis and research assistance. The views expressed in this article are those of their authors and not necessarily the views of the BIS, CPMI, BoE, NBB or SWIFT. Data relating to SWIFT messaging flows are published with the permission of S.W.I.F.T. SC. SWIFT © 2022. All rights reserved. Because financial institutions have multiple means to exchange information about their financial transactions, SWIFT statistics on financial flows do not represent complete market or industry statistics. SWIFT disclaims all liability for any decisions based, in full or in part, on SWIFT statistics, and for their consequences.

[2] A cross-border payment "on SWIFT" is an international funds transfer facilitated by the SWIFT messaging network and settled via correspondent banking. Specifically, we analyse payments facilitated by MT 103 messages, see the SWIFT website for details.

[3] Cross-border payments are crucial for the global economy but are generally perceived to be slower, more expensive, less transparent, and less accessible to some end users than domestic payments. In 2020, the Financial Stability Board (FSB) and the CPMI collaborated on identifying (i) frictions underlying cross-border payment arrangements (FSB (2020a)); (ii) "building blocks" required to improve current arrangements (CPMI (2020)); and (iii) a roadmap laying out steps to implement these building blocks (FSB (2020b)). In October 2020, the G20 endorsed the roadmap to be taken forward by the FSB, CPMI, World Bank, International Monetary Fund (IMF) and Financial Action Task Force (FATF).

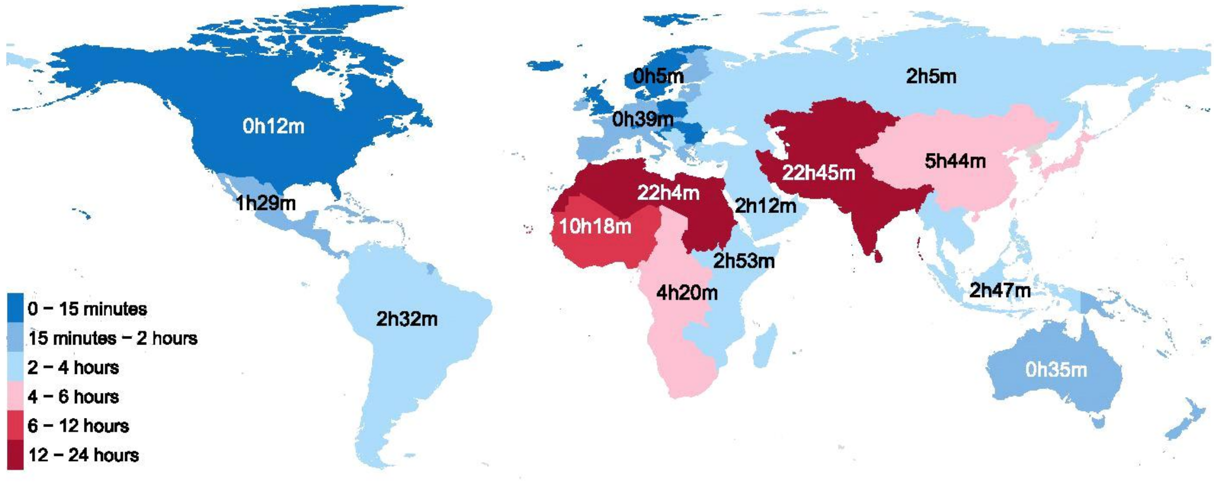
[4] SWIFT gpi revolves around four core principles: (i) settling a payment within the same business day, (ii) monitoring payment status in real time, (iii) providing transparency of fees all along the payment chain, and (iv) passing on unaltered remittance information to identify the underlying reason for the payment. SWIFT gpi was launched in 2017 and has since been adopted by more than 4,200 banks and 60 market infrastructures. See SWIFT (2020) and the gpi website for additional information.

New data from SWIFT gpi allow us to measure payment processing time at a granular level. Every payment on SWIFT gpi has a unique end-to-end transaction identifier (UETR) which allows us to measure the time from when the originating bank forwards the payment instruction until the beneficiary bank credits the end customer's account. Our analysis is based on all payments with credit confirmations from September and October 2020 which cross jurisdictional borders and involve more than one financial group. We exclude euro-denominated payments between euro area countries. The data consist of approximately 20 million transactions covering 141 countries and dependent territories around the world. The data represent 48% by volume and 56% by value of all cross-border payments on SWIFT. As the data exclude cross-border payments through arrangements other than SWIFT gpi (for example, payments via card networks or money transfer operators), our results should be viewed in the context of SWIFT gpi only.

The processing time of payments on SWIFT gpi is generally short but differs significantly between end-to-end payment routes. The average payment processing time is eight hours and 36 minutes, while the median is only one hour and 38 minutes. Of the more than 57,000 potential, unique, end-to-end payment routes that exist on SWIFT, the top 20 routes (ranked by volume) account for 15% of total payments volume and 24% of total payments value. Many of these top routes are well-established links between high-income countries, in which most payments settle within minutes or even seconds. However, on less busy routes, some payments take hours or even days to settle. At first glance, regional characteristics play a large role. For example, the median processing time is less than 15 minutes for payments sent to Northern America and parts of Europe, whereas it is more than 22 hours for payments sent to Northern Africa and Southern and Central Asia (graph 1). This variation warrants a closer look at the determinants of processing time.

Median end-to-end processing time by beneficiary region

Graph 1

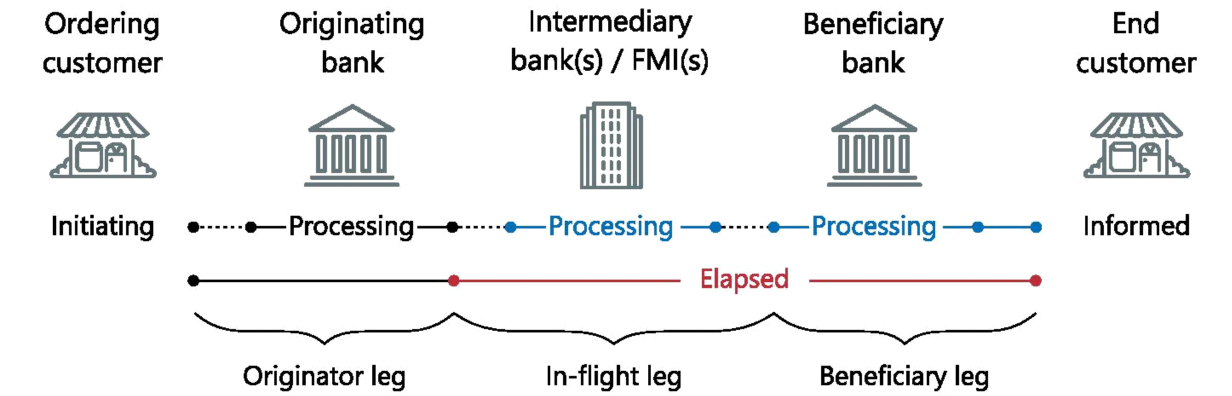


The use of this map does not constitute, and should not be construed as constituting, an expression of a position by the BIS regarding the legal status of, or sovereignty of any territory or its authorities, to the delimitation of international frontiers and boundaries and/or to the name and designation of any territory, city or area. See Table A3 in the Technical appendix for the constituent countries of each region.

Source: SWIFT Observer Analytics.

The timeline of a payment on SWIFT gpi can be split into three legs: the originator, in-flight and beneficiary leg (graph 2). We only observe in-flight and beneficiary time: in-flight time begins when the originating bank initiates the payment on SWIFT gpi, and it ends when the (last) intermediary bank or financial market infrastructure (FMI) forwards the instruction to the beneficiary bank. If there are no intermediary banks or FMIs, in-flight time is zero. Beneficiary time begins when the beneficiary bank receives the instruction, and it ends when the beneficiary bank credits the end customer's account. For the beneficiary leg, we use *processing time*, which excludes banks' offline hours such as weekends and holidays, and for the in-flight leg, we use *elapsed time* (see the Technical appendix for details).

Stylized timeline for a typical cross-border payment on SWIFT gpi — Graph 2



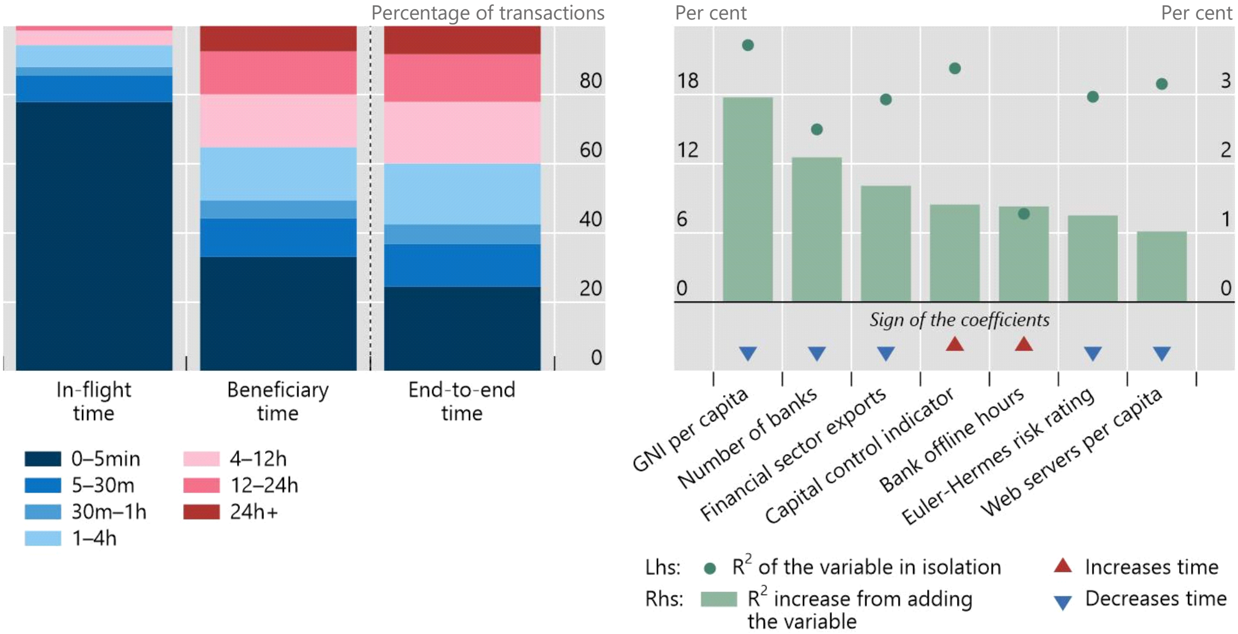
Data from the SWIFT gpi Observer only track the in-flight and beneficiary legs, that is, the blue and red parts of processing time and elapsed time, respectively. See the Technical appendix for a discussion of the pros and cons of using processing time versus elapsed time.

Payments spend noticeably more time at the beneficiary leg than at the in-flight leg. Intermediary banks (if any) process 78% of payments in less than five minutes. Beneficiary banks only process 33% of payments in that time, thus reducing the share of payments with an end-to-end time under five minutes to just 25% (graph 3a). Generally, payments with end-to-end processing times that exceed hours or even days tend to spend more time at the beneficiary leg. For example, in the slower beneficiary regions such as Northern Africa and Southern and Central Asia, the beneficiary leg is by far the most time-consuming part of the average payment route (Technical appendix, Graph A2).

Most of the observable payment processing time is spent at the beneficiary leg — Graph 3

Beneficiary time accounts for the larger part of end-to-end time...

... and is highly correlated with a number of country-level variables[2]



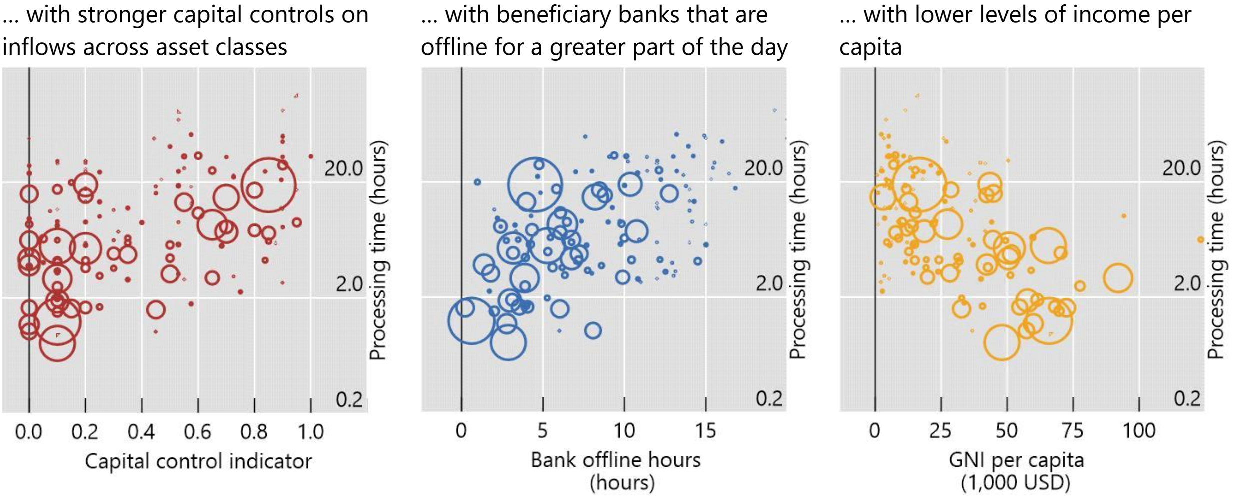
[1] End-to-end time is the sum of in-flight time and beneficiary time. [2] An upward (downward) arrow indicates a positive (negative) coefficient of the variable on beneficiary time. "R^2 of the variable in isolation" is the variance explained by a single regressor on beneficiary time in a bivariate model, and "R^2 increase from adding the variable" is the minimum additional variance explained by adding the variable to partial least squares regressions across all other country-level variables in our data set. See the Technical appendix for details.

Source: SWIFT Observer Analytics.

Multiple factors affect time spent at the beneficiary, but the individual effect of any single factor is unclear. To investigate beneficiary time, we supplement the data from SWIFT gpi with country-level statistics such as the GNI per capita as well as indicators of capital controls and bank offline hours.[5] While several country-level variables are associated with either shorter or longer beneficiary times, these variables are highly correlated, which clouds the estimation of their individual effects on processing time (see the Technical appendix for details). However, we find that certain key country-level variables explain much of the variance in processing time and possess additional explanatory power over all other available variables in the data set (graph 3b). Variables correlated with shorter processing times include the GNI per capita, number of banks, financial sector exports, number of internet servers per capita and Euler-Hermes credit risk rating, which measures the risk of non-payment by companies in each country. Variables correlated with longer processing times include capital controls and bank offline hours.

Countries with substantial capital controls tend to have higher payment processing times at the beneficiary leg (graph 4, left-hand panel).[6] For beneficiary countries, we average the controls indicator for inflows across payments pertaining to ten different asset classes. The indicator takes values between zero and one, with one indicating restrictions on all asset classes. Capital controls remain an integral part of a country's policy toolkit to limit the spread of international economic disturbances. However, such restrictions typically involve burdensome compliance processes and other manual interventions due to documentation requests and balance of payments reporting, which in turn increase processing time at the beneficiary bank before funds can be released to the end customer's account.

The payment processing time[1] at the beneficiary leg is longer in countries… Graph 4



[1] Processing time on the y-axis is the log of processing time. Bubble size represents the volume of payments received.

Sources: SWIFT Observer Analytics; World Bank, CIA World Factbook and Fernández et al (2016).

Longer offline hours at beneficiary banks tend to increase payment processing time (graph 4, centre panel). We measure the offline hours of a beneficiary bank by counting the number of consecutive hours in which the bank does not confirm transactions during a regular business day and averaging over our sample period. More offline hours not only limit the time during which banks process

[5] We use World Bank and CIA World Factbook statistics as well as capital control indicators for 100 countries compiled by Fernández et al (2016) based on the IMF's Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER).

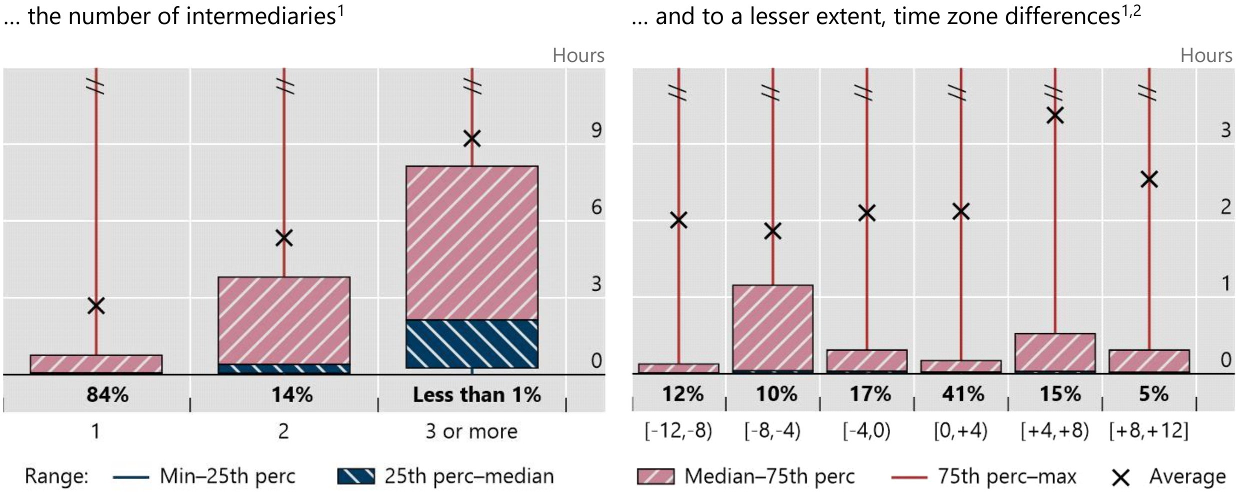
[6] On one hand, capital controls are influenced by country-specific factors, such as the balance of payments and macroeconomic management, and could be endogenous. On the other hand, governments have discretion in deciding whether to implement controls. Using random forest regression, we were unable to predict a country's capital control indicator based on any subset of the 74 other country-level variables in our data set. Hence, for the purposes of our analysis of payment speed, we treat the capital control indicator as exogenous, subject to its high correlation with other country-level variables. Our approach does not constitute an expression of a position by the BIS regarding a country's choice to implement capital controls.

payments but are also correlated with the use of batch processing, that is, the extent to which banks execute payments in batches at specific times during the day rather than on a transaction-by-transaction basis. Both effects cause delays and increase time spent at the beneficiary leg.

Payments to banks located in high and upper-middle income countries are generally faster (graph 4, right-hand panel). GNI per capita is the strongest predictor of beneficiary processing time as it is strongly correlated with, and thus acts as a proxy for, a long list of variables which could affect payment speed. In addition to capital controls and bank offline hours, these include the Euler-Hermes risk rating, which is likely associated with more stringent know-your-customer (KYC) due diligence checks, and the exports of the financial and insurance sectors relative to overall GDP and other import-export oriented metrics. This indicates that open economies with large financial sectors are likely to attract global banks and investment in financial market infrastructure to support faster processing of cross-border payments.

Additional intermediaries on the payment route extend time spent at the in-flight leg, but this extension is limited compared to time spent at the beneficiary leg. When more intermediary banks are involved, a payment undergoes further processing, possibly including manual interventions such as compliance checks, and may have to pass through additional market infrastructures (for example, domestic RTGS systems). As a result, average elapsed time increases, and so does the variance of the time distribution (graph 5, left-hand panel). However, the minimum and lower quartiles of time remain close to zero regardless of the number of intermediaries. In most cases, especially when only one or two intermediaries are involved, the intermediaries are global correspondent banks that have streamlined and automated their processes to add little to no time to the in-flight leg. Payments with three or more intermediaries are slower, but the average time increase per added intermediary is still lower than the almost eight hours spent on average at the beneficiary leg. Notably, cross-border payments on SWIFT involve just over one intermediary on average, and payments with three or more intermediaries represent less than one per cent of total payment volume. These results indicate that the SWIFT gpi service level agreement, requiring participating banks to facilitate same-day use of funds, increases payment speed.

Elapsed time in flight is affected by… Graph 5



[1] The share of total payment volume is shown below the x-axes (excluding payments with zero intermediaries in graph 5a) and the maximum elapsed time is always 10 days. [2] The time zone difference is the beneficiary's UTC offset less the originator's UTC offset, for example, the time zone difference of a payment travelling from Hong Kong (UTC+8) to Stockholm (UTC+1) is -7. Any absolute difference above 12 is converted to the corresponding difference in the opposite direction around the world, for example, a difference from Hong Kong (UTC+8) to New York (UTC-5) at -13 is converted to +11. "[x, y)" means from x to but *excluding* y, whereas "[x, y]" means from x to and *including* y.

Sources: SWIFT Observer Analytics.

The size of the time zone difference between the originator and beneficiary banks has no measurable effect on payment speed. However, the direction matters: payments sent "with the sun", that is, from east to west, tend to be faster than payments sent in the opposite direction. Time zone differences have the potential to reduce the number of overlapping operating hours among banks and market infrastructures on the payment route. When a payment arrives at a bank or payment system during offline hours, it must wait for the relevant institution to open to be processed, and its elapsed time in flight increases. Payments sent from east to west are less likely to arrive during overnight offline hours, which could explain why they are nearly 30 minutes faster on average than those sent from west to east (graph 5, right-hand panel). However, the average elapsed time neither strictly increases nor decreases with the absolute size of the time zone difference. This could reflect how global correspondent banks with close to 24/7 operations drive down the average elapsed time on the busiest payment routes. For example, the slower Korea to China route dominates the time zone difference bracket between -4 and 0 hours, while the faster United Kingdom to United States route dominates the bracket between -8 and -4 hours.

The volume of payments to the beneficiary country, the payment amount and whether it involves a currency conversion hardly affect processing time. The level of correspondent banking activity on a specific payment route is a poor predictor of speed;[7] other factors likely cloud any efficiency gains by banks serving busy payment routes. The payment amount is also uncorrelated with speed, which is less surprising given that all payments on SWIFT gpi must adhere to the same business rules, use similar arrangements and settle through identical infrastructure regardless of their amount. With SWIFT gpi data, we can only observe currency conversions by intermediary banks, not by beneficiary banks, and this currency conversion has no clear association with shorter or longer end-to-end processing times.

Regular collection of data over time from a given range of market participants could provide a basis for better estimates of the individual effects of capital controls and other country-level variables on processing time. Once SWIFT gpi has been operational for a longer period, over which countries loosened or tightened their capital controls and data on payment speed have been consistently compiled, it would be possible to quantify the effects of capital controls, offline hours, and other variables of interest more accurately. In addition, case studies of particularly relevant payment routes could provide a better understanding of the specific compliance processes that cause delays. As additional banks adopt SWIFT gpi, and SWIFT can then track the processing time of more cross-border payments, future analyses of payment speed could cover a larger share of cross-border payments via correspondent banking.

References

Committee on Payments and Market Infrastructures (CPMI) (2020): *Enhancing cross-border payments: building blocks of a global roadmap – Stage 2 report to the G20,* 13 July.

Fernández, A, A Klein, A Rebucci, M Schindler and M Uribe (2016): "Capital Control Measures: A New Dataset", *IMF Economic Review*, vol 64, no 3, August, pp 548–574.

Financial Stability Board (FSB) (2020a): *Enhancing Cross-border Payments – Stage 1 report to the G20,* 9 April.

——— (2020b): *Enhancing Cross-border Payments – Stage 3 roadmap,* 13 October.

Garthwaite, P H (1994): "An interpretation of partial least squares", *Journal of the American Statistical Association*, vol 89, no 425, pp 122-127.

SWIFT (2020): "SWIFT gpi – Driving a payments revolution", *SWIFT info paper*, October.

[7] This also apparent from graphs 4a-c, which show no clear relationship between volume (bubble size) and payment speed.

Technical appendix

Analysis based on routes rather than corridors

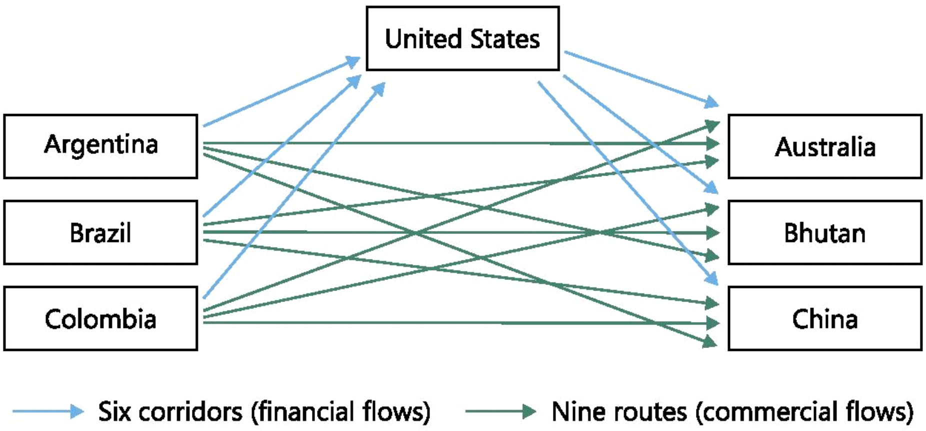
Our data set is not only novel in that it contains granular information on payment speed; it also applies a general modification at SWIFT Business Intelligence (BI) from corridor-based to route-based analysis of transaction flows. SWIFT BI differentiates between two types of flows:

- *Commercial flows*, also called *routes*, refer to the payment instruction sent by the bank of a client A, typically a corporate client, to the bank of a client B for the import of goods or services. Commercial flows of funds thus mirror the trade flows of goods and services.
- *Financial flows*, also called *corridors*, refer to the individual payments along the route needed to settle the payment obligation of client A to client B.

As an illustrative example, consider nine payment obligations from clients in Argentina, Brazil and Colombia via correspondent banks in the United States to clients in Australia, Bhutan and China (Graph A1). Each route represents one obligation, while each corridor only represents a part of an obligation, and the number of unique routes is higher than the number of unique corridors.

This has implications for an analysis of payment speed, as calculating end-to-end processing time requires route-based data, and for further analysis of, for example, the apparent decline in correspondent banking relationships.

Counting payment routes versus corridors — Graph A1



This is an illustrative example of randomly selected countries.

The difference between processing time and elapsed time

In our analysis we use two different measures of payment time:

- *Processing time* is the time it takes each bank to process a payment, from when a bank receives the payment instruction until it either forwards the instruction (in the case of the originating and intermediary banks) or credits the end customer (in the case of the beneficiary bank). Processing time corrects for a bank's offline hours by excluding overnight hours between business days as well as weekends and public holidays in the bank's country location.
- *Elapsed time* is the time it takes for a payment to be credited to the end customer, from when the payment is initiated on SWIFT gpi by the originating bank to when the beneficiary bank

credits the end customer's account, including all types of offline hours. Elapsed time is strictly greater than or equal to processing time.

Processing time, on the one hand, favours banks with shorter operating hours that may be considered more efficient at processing payments relative to banks with longer operating hours. We use processing time for our analysis of time spent at the beneficiary leg to control for the effects of weekends and public holidays and focus on factors that increase the active time spent by the beneficiary banks on compliance processes and other manual interventions.

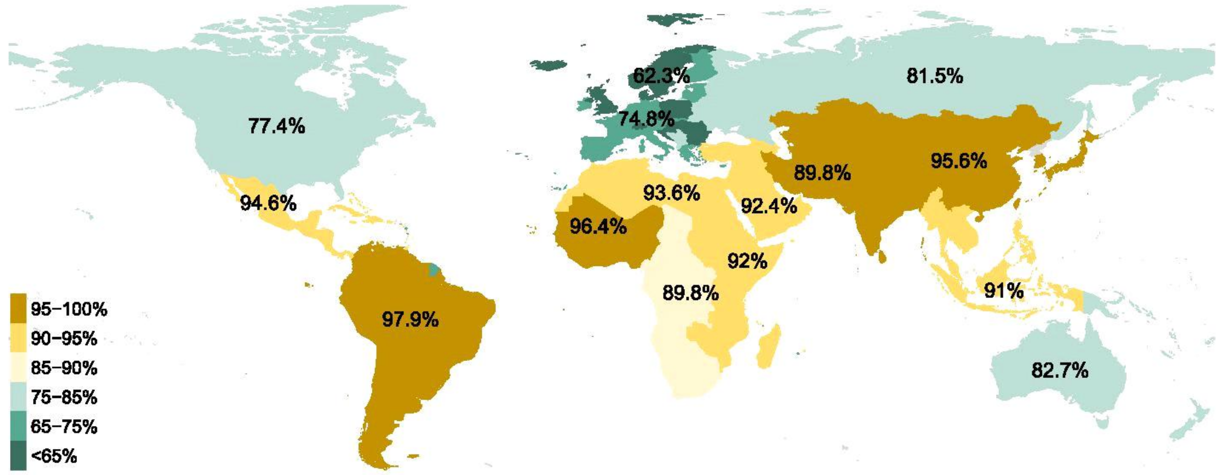
Elapsed time, on the other hand, considers other factors influencing payment speed such as how the number of intermediaries and time zone differences may add additional waiting time between banks' processing windows if their operating hours do not overlap. Hence, we use elapsed time for analysing the in-flight leg.

Notably, our conclusions regarding both in-flight and beneficiary time are unaffected by whether we base the analysis on processing time or elapsed time.

The split between in-flight and beneficiary time by region

Across all beneficiary regions, more than half of processing time is spent at the beneficiary leg on average (Graph A2). The regions with higher median processing times (Graph 1) tend to spend a higher proportion of time at the beneficiary leg relative to the in-flight leg. For example, in the slower beneficiary regions such as Northern Africa and Southern and Central Asia, accounting for more than 95% of processing time, the beneficiary leg is by far the more time-consuming part of the average gpi payment route.

Beneficiary time as the average percentage of end-to-end processing time — Graph A2



The use of this map does not constitute, and should not be construed as constituting, an expression of a position by the BIS regarding the legal status of, or sovereignty of any territory or its authorities, to the delimitation of international frontiers and boundaries and/or to the name and designation of any territory, city or area. See Table A3 for the constituent countries of each region.

Source: SWIFT Observer Analytics.

Methodology for analysing beneficiary time

We observe that processing time at the beneficiary leg is highly country-specific, so to identify variables that potentially affect beneficiary time, we augment the SWIFT gpi transaction data with country-level statistics from the World Bank and CIA World Factbook.

However, the data for several of the small countries and dependent territories contain missing values. Rather than excluding those countries, we impute the missing values using an iterative regression tree approach. To increase the accuracy of our imputation method, we regress each country-level variable on a data set which is further enriched with additional variables that do not significantly correlate with beneficiary time. The data set for our analysis contains 75 country-level variables (Table A1). Including imputed values in our dataset does not materially affect the results of our model for two reasons:

1. The imputation accuracy is high for almost all variables, with only 4 out of 75 variables exceeding a range-normalised root mean square error (RMSE)[8] of 0.3.

2. The countries for which data are missing tend to have lower payment volumes, so the enriched payments data set contains actual (ie, non-imputed) country-level statistics for most data points. All the 75 variables use actual data for more than 80% of payments volume, while 27 of them use actual data for more than 99.9% of payments volume.

Overview of county-level variables

Table A1

Source	Number of variables	Dimensions covered
SWIFT	3	Banking sector statistics
Euler Hermes	1	Country medium-term risk rating
ITU	1	Global cybersecurity index
CLS	2	CLS participant countries and eligible currencies
Fernández et al (2016)	1	Capital control indicator on inflows, averaged across all ten asset classes
World Bank	38	Statistics covering demography, income, wealth, sectorial activities, health and welfare, technological development, financial sector activity, travel and tourism, international trade and payments
World Bank GFD	8	Additional statistics on the banking sector and payments (credit cards, number of banks, etc)
CIA World Factbook	21	Additional statistics on telecommunications, income, wealth and demographics

The variables in our data set that likely affect beneficiary time are strongly correlated and interact in nonlinear ways in their effect on beneficiary time. As our data set is cross-sectional, we do not observe how the processing time at beneficiary banks in any specific country develops over time. Given the multicollinearity of country-level variables, we are unable to identify the causal effect of any individual predictor, such as the capital controls indicator, using log-linear regression or regression trees.

We use Partial Least Squares Regression (PSLR), which is a so-called "supervised" method: when constructing the principal components, PSLR only considers the components that have direct explanatory power over the outcome variable (ie, beneficiary time in our analysis).[9]

Like any regression method, PSLR will not be able to accurately estimate regression coefficients in a data set with multicollinearity. However, model fit and variance explained (usually expressed in terms of R^2) can be accurately estimated, and the calculation method is numerically stable. This implies that, unlike the *size* of a coefficient which depends on how many times another correlated variable is included, the *sign* of the coefficient can be accurately estimated. PSLR thus allows us to estimate the directional effects of the variables of interest, indicating whether they tend to increase or decrease processing time at the beneficiary leg.

To determine the directional effect of a variable, we calculate a factor which resembles the eta-squared (η^2) used in ANOVA modelling. First, we estimate the R^2 of every variable in isolation and subtract that from the combined explanatory power of all possible variable pairs. Second, we perform this calculation on 65 subsamples of the dataset, resulting in an estimate of the additional variance that each

8 RMSE is a measure of the average prediction error of the model.

9 See Garthwaite (1994) for an overview of the PSLR method.

variable can explain that cannot be explained by any other variable. Third, we use the minimum additional explanatory power across all variable pairs and subsamples to report the most conservative estimate. For 51 of the country-level variables, we identify an additional explanatory power of zero. This implies that, for each of these variables, at least one other variable can predict beneficiary time as accurately.

Only a few variables in our data set can predict beneficiary time with significant additional explanatory power. They include GNI per capita, number of banks, financial sector exports, capital control indicator, bank offline hours, Euler-Hermes risk rating and number of web servers per capita (Table A2).

Country-level variables of particular importance to beneficiary time — Table A2

Variable of interest	R^2 of the variable in isolation	R^2 increase from adding the variable	Most closely related variable	Sign of coefficient
GNI per capita	22.28	2.96	Scientific publications per capita	-
Number of banks	14.97	2.09	Health expenditure per capita	-
Financial sector exports	17.57	1.68	GNI per capita	-
Capital control indicator	20.27	1.41	GNI per capita	+
Bank offline hours	7.65	1.38	Health expenditure per capita	+
Euler-Hermes risk rating	17.80	1.25	GNI per capita	-
Financial sector exports	18.91	1.02	GNI per capita	-

Regions and constituent countries

For the purposes of this analysis, we defined 15 regions based on geographical norms as well as similarities in payment speed within each region (Table A3).

Constituent countries and dependent territories by region — Table A3

Continent	Region	Countries and dependent territories
Africa	Eastern Africa	BI, DJ, ER, ET, KE, KM, MG, MU, MW, MZ, RE, RW, SC, SO, SS, TZ, UG, YT, ZM, ZW
	Northern Africa	DZ, EG, LY, MA, SD, TN
	Southern and Central Africa	AO, BW, CD, CF, CG, CM, GA, GQ, LS, NA, ST, SZ, TD, ZA
	Western Africa	BF, BJ, CI, CV, GH, GM, GN, GW, LR, ML, MR, NE, NG, SH, SL, SN, TG
Americas	Central America and the Caribbean	AG, AI, AW, BB, BQ, BS, BZ, CR, CU, CW, DM, DO, GD, GP, GT, HN, HT, JM, KN, KY, LC, MQ, MS, MX, NI, PA, PR, SV, SX, TC, TT, VC, VG
	Northern America	BM, CA, GL, US
	South America	AR, BO, BR, CL, CO, EC, FK, GY, PE, PY, SR, UY, VE
Asia	Eastern Asia	CN, HK, JP, KR, MN, MO, TW
	Southern and Central Asia	AF, BD, BT, IN, IR, KG, KZ, LK, MV, NP, PK, TJ, TM, UZ
	South-Eastern Asia	BN, ID, KH, LA, MM, MY, PH, SG, TH, TL, VN
	Western Asia	BF, BJ, CI, CV, GH, GM, GN, GW, LR, ML, MR, NE, NG, SH, SL, SN, TG
Europe	Europe EEA Eurozone	AD, AT, BE, CY, DE, EE, ES, FI, FR, GR, IE, IT, LT, LU, LV, MC, MT, NL, PT, SI, SK, SM, VA
	Europe EEA non-Eurozone	BG, CH, CZ, DK, FO, GB, GG, GI, HR, HU, IM, IS, JE, LI, NO, PL, RO, SE
	Europe non-EEA	AL, BA, BY, MD, ME, MK, RS, RU, UA, XK
Oceania	Oceania	AS, AU, CK, FJ, GU, KI, MH, NC, NZ, PF, PG, SB, TO, TV, VU, WS

The use of this regional categorisation does not constitute, and should not be construed as constituting, an expression of a position by the BIS regarding the legal status of, or sovereignty of any territory or its authorities, to the delimitation of international frontiers and boundaries and/or to the name and designation of any territory, city or area.