

# The Market Performance of Italian IPOs in the Long-Run

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***Abstract.** In most industrialized countries IPOs seem to underperform both the market and portfolios of comparable firms in the long-run, despite the initial underpricing. The reason of this phenomenon are not clearly known. Why investors should buy IPOs shares if probably they will obtain a loss in the long-run, compared to the market portfolio ?*

*In this paper, we collect data for a comprehensive sample of 150 IPOs on the Italian Stock Exchange, issued between 1985 and 1999. We analyze the long-run performance, using the market index as referring benchmark. We find that the most recent IPOs do severely underperform the market, while IPOs in the '80s do not exhibit significantly different returns from the other stocks. We also find a significant negative correlation between long run relative performance and initial flipping, this suggesting that some investors possess superior information on IPOs.*

**J.E.L Classification codes:** G30, G32.

**Keywords:** Long-Run Performance, Initial Public Offerings, Italian Stock Exchange.

## 1. Introduction

The puzzle of IPOs pricing both in the short-run and in the long-run has become a leading example of pervasive market inefficiency (Ibbotson et al., 1994). While the most striking and widely diffused empirical regularity is the initial underpricing<sup>1</sup>, the evidence on IPOs long-run performance is mixed, although severe underperformance has been reported in the major stock markets. This suggests that investors should buy a portfolio of IPO shares and sell them in the short-run, to take over the “money left on the table” (Loughran and Ritter, 2001) by the issuing firm and avoid long-run losses.

In this paper we aim at exploring IPOs performance in the long-run on the Italian Stock Exchange.

We collect data for all the IPOs issued on the Italian Stock Exchange from 1985 to 1999 and analyze the market prices in the 3 years following the listing for a sample of 150 IPOs, compared to the market performance.

We show that the mean buy-and-hold abnormal return is equal to  $-7.52\%$  after one year,  $-12.51\%$  after two years and  $-11.53\%$  after three years. Yet, we highlight that IPOs in the ‘80s do not significantly underperform the market, while IPOs in the late ‘90s do exhibit negative abnormal returns. While we do not find any difference among business sectors, we detect a significant negative correlation between the long run returns and the initial IPO flipping, this suggesting that some investors possess superior information about IPO firms and take advantage of the initial underpricing.

This paper is divided in five sections. Section 2 highlights the recent literature about IPOs performance in the long-run and points out the methodological problem of defining appropriate benchmarks to measure it. In Section 3 we give a short description of the going public institutional framework in Italy. Section 4 shows the results of the empirical analyses. In Section 5 the findings of the analysis are summarized and some concluding remarks are drawn.

## **2. Do IPOs really underperform in the long-run ?**

The results of empirical studies on the long-run performance of IPOs are not homogeneous. Table I reports the most recent evidence we found about IPOs long-run performance in the world.

Table I

In some countries the long-run performance is more pronounced than in others. Carter et al. (1998), Hanley (1993), Levis (1993) and Ritter (1991) analyze US and UK IPOs and highlight that they significantly underperform both the market index and comparable firms. In Germany recent IPOs seem to perform neutrally compared with different control portfolios (Sapusek, 1997); in Sweden IPOs returns in 3 years do not significantly differ from market returns (Loughran et al., 1994). At the extreme, in Turkey post-listing positive abnormal returns are detected (Kiyamaz, 1997), like in other developing countries such as China and Korea.

Yet, the conclusions about abnormal IPOs performance in the long run are sensitive to the methodology employed. For example, when size- and book-to-market matching is used, no evidence of underperformance is found for US IPOs (Brav and Gompers, 1997).

To test whether a market is inefficient in pricing shares, one must know what “normal” returns should be, in order to determine if the actual returns deviate from this benchmark (Loughran and Ritter, 2000). Since normative pricing models, such as the CAPM, have little empirical support, there is no general consensus on how to measure long-term abnormal returns. Fama (1998) argues that the tests based on the magnitude of abnormal returns are rarely robust to alternative referring benchmark: they simply verify whether any patterns that exist are being captured by other known patterns. Moreover, statistical significance levels are, for some methodologies, difficult to compute (Brav, 2000; Lyon et al., 1999).

Current empirical research on IPOs, in measuring long-run performance, adopt several benchmarks: (i) the market return, as measured by official indexes, (ii) the market return adjusted for risk, for size or book-to-market<sup>2</sup>, and (iii) a portfolio of comparable listed firms. These benchmarks are compared to portfolio of IPOs, equally weighting (EW) or value weighting (VW) the new issues.

Adopting the market return as a benchmark causes a test to be biased towards no abnormal returns because the benchmark is composed also by the IPOs firms. This is confirmed by Loughran and Ritter (2000) who find substantially greater underperformance using decontaminated factors than when using simple market benchmark. Yet, matching by size and book-to-market is empirically motivated rather than theoretically (Ritter, 2001), and this provides no evidence for or against market efficiency.

However, it makes sense to point out the variety of factors which are correlated to the long term return of IPO stocks. A piece of the literature generally suggests that the market is not at long-term equilibrium when pricing young issues, but it realizes its mistakes slowly, adjusting prices as the issue mature. Miller (1977) explains IPO underperformance assuming divergence of investor opinions, under the condition of no short sales. Thus, a negative relationship between long-run performance and ex ante uncertainty should stand<sup>3</sup>. Morris (1996) also shows that heterogeneity of beliefs can support speculative bubbles and over-valued IPOs immediately after the issuance, relative to the long-run value.

Loughran and Ritter (1995) hypothesize that a “window of opportunity” exists in which investors are over-optimistic about the issuing firm’s value. Rajan and Servaes (1997) state that security analysts are systematically overoptimistic about the earnings potential and long-term growth prospects of recent IPOs. They document that IPOs have better future performance when analysts forecast lower growth prospects.

Teoh et al. (1998) find evidence suggesting that naïve investors may be systematically fooled by earnings management operations of “window dressing”, aimed at reporting earnings in excess of

cash flows by taking opportunistic positive accruals. There is high information asymmetry between investors and issuers at the time of the IPO. If buyers rely on earnings reported in the prospectus, but are unaware that they are inflated by accruals, they will pay too high a price. They find a significant ability of discretionary accruals to predict IPO stock price underperformance, suggesting that as information about the firm is revealed over time, investors may recognise that earnings are not maintaining their momentum, and adjust prices. In fact, when inflating accruals, firms borrow income from future periods so that managers cannot overstate earnings over long periods of time without being detected. The same results are obtained by Roosenboom et al. (1999) who analyze a sample of Dutch IPOs: they find that IPO firms do manage their earnings during the fiscal year of the issue; moreover companies which lavish on discretionary accruals experience worse long-run stock price performance. Consistently with the frameworks ahead, several studies document that IPOs operating performance decade after the listing.

Wen (1999) provides a rational explanation for the IPO underperformance. Assuming investor heterogeneity, share-supply and short-sale restrictions he builds a model in which some investors must have special reasons to want to hold IPOs (over-optimism, preference for skewed returns, residual risk linked to technological change and innovation), but their beliefs are not narrowing over time after. He demonstrates that in this world the expected rate of return from IPOs can also be below the risk-free rate and predicts that small IPOs tend to have poorer performance. In this vein, Ammermann (2000) states that the long run bad performance is determined by the expiration of the growth options embodied by the firms at the IPO.

Is the initial market performance related to subsequent performance ? Ibbotson et al. (1994) and Carter et al. (1998) suggest that good firms underprice their shares to signal quality, as manifest by superior aftermarket performance. On the contrary Shiller (1990) argues that the IPO market is subject to fads opportunistically exploited by intermediaries through underpriced issues<sup>4</sup>. Such temporary fads must eventually fade away, resulting in long-run bad performance<sup>5</sup>. Loughran and

Ritter (2000) posit that underperformance is more severe in high-volume trading periods than in low-volume periods, consistently with the supply response hypothesis by (Ritter, 1991).

Krigman et al. (1999) find an interesting link between the initial trading volume and the long-run performance: first-day “winners” (i.e. underpriced IPOs) continue to be winners over the first year, and first day “dogs” (i.e. IPOs with negative or zero initial returns) continue to be relative dogs. An exception are extra-hot IPOs (i.e. severely underpriced IPOs) which provide the worst future performance. Since on the first day of listing they observe large informed investors (*flippers*) selling issues that have the worst future performance, they conclude that flipping predicts bad long-run performance. Houge et al. (1999) also posit the long-term forecasting ability of flipping, but exclude information advantages of large traders. Simply they posit that the more divergent the investors’ expectations about the issue (measured by flipping, by the opening delay and by the size of the opening spread), the poorer the long-term performance.

A number of papers point out a significantly high correlation between long-term returns and ownership structure. Leland and Pyle (1977) predict that firms with greater insider selling of secondary shares at the IPO should have worse long-run performance, consistently with the agency-theory, motivated by increased extraction of private benefits by the controlling shareholder (Jensen and Meckling, 1976). Agency problems may arise in IPOs when insider ownership is diluted. Jain and Kini (1994) argue that the bad long-term performance of IPOs can be partly explained by the worsening of managerial incentives following the issue. On the contrary Mikkelsen et al. (1997) and Goergen (1998, this latter analyzes both the German and UK Stock Market) do not find any consistent relationship between performance and changes of ownership structure following the IPO. Dhillon et al. (1999) report better long-run performance for firms with higher insider selling, especially when management insiders are the primary sellers. Therefore they conclude that selling by non-management insiders may be due to liquidity or portfolio rebalancing and is not perceived by the market as trading on private information.

The presence of venture capital in firms going public has been associated with improved long-term performance, motivated by reputation concerns. Consistently with this hypothesis Brav and Gompers (1997) report that venture-backed IPOs do not significantly underperform over the long term.

On the contrary Hamao et al. (1998) find the long-run performance of venture-backed IPOs to be no better than that of other IPOs. Interestingly enough, splitting the sample they find that firms with a venture backing from securities company subsidiaries perform significantly worse than other IPOs, suggesting the existence of conflict of interests.

The long-run aftermarket performance of IPOs is certainly affected also by underwriters and analyst activism. While in the short-run there is evidence of direct intervention on the open market, in the long-run research coverage and analysts recommendation provide the market with information. Michaely and Womack (1999) show that IPO stocks that underwriter analysts recommend perform more poorly than recommendations by unaffiliated brokers, this suggesting that underwriting relationship biases analysts' coverage.

Meggison et al. (2000) examine a survey of empirical studies on the privatization of state-owned enterprises and find significantly positive excess returns in the long-run.

Last, institutional bindings and rules seem to be important in driving the long-run overperformance in developing countries, as highlighted by Wong and Xie (1999).

### **3. The going public process in Italy**

The going public process in Italy starts with a firm and an advisor selecting a Stock Market, choosing the flotation mechanism and estimating an offer price range<sup>6</sup>. A “book-running” manager and the co-managers (if any) are given the responsibility to assemble a syndicate (lead by the underwriter) to assist in the public offering of the shares. A letter of intent is drawn protecting the underwriter in the event the offer is withdrawn, determining the gross spread and eventually a

commitment by the company to grant an overallotment option to the underwriter, typically 15% of the total issue. The most diffused kinds of agreements in Italian IPOs are the Firm Commitment and the Stand-by Agreement. With a Firm Commitment the investment bank guarantees to purchase the whole issue from the corporation and then re-offer the shares to the public. With a Stand-by Agreement the intermediate agrees to purchase the newly issued shares not subscribed by the investors, to a limited amount. The Best Effort Agreement, which does not guarantee that enough buyers will be found to sell the entire offering, is almost never used in Italy<sup>7</sup>.

After the authorities' approval<sup>8</sup>, a legal notice and a prospectus are published specifying the number of shares sold, the price at which these shares will be sold and the date of the listing. An intermediate is selected as the "sponsor", and certifies that the issuing firm complies with the listing requirements.

The shares marketed through a public offer may be existing shares (OPV, *Offerta Pubblica di Vendita*) or newly issued shares (OPS, *Offerta Pubblica di Sottoscrizione*) or both (OPVS, *Offerta Pubblica di Vendita e di Sottoscrizione*). Voting, non voting or restricted voting shares may be offered to the public.

From 1985 to 1994 almost all IPOs adopted the fixed-price issue procedure, i.e. the (fixed) price of the shares was published in the prospectus. A few IPOs adopted an auction-like procedure, in which competitive price-quantity bids were collected from investors. Actually this procedure has been no longer adopted for an IPO in Italy<sup>9</sup> after 1986.

From 1992 for large IPOs (to coincide with the first large privatization IPOs led by the Italian governments), and from 1994 for almost all IPOs, the investment banks are used to start gathering indications of interest from the regular investors, which are non-binding orders at different price levels. This collection helps the underwriter to determine the final offer price and a list of potential buyers (*book building with fixed price*). Therefore, just a referring price range is published in the official prospectus. The final issue price is not set according to any explicit rule, but rather at a level

at which demand exceeds supply, determined after observing all the indications of interest. Once the offer price is set, bids are solicited from investors and shares are finally assigned. In case of oversubscription, the effective allocation of shares to the public is generally driven by casual drawing or allotment of smaller tranches. In 1999 a new procedure (*book building with open price*) has been developed, according to which the final price is set after the collection of bids. In this case the investors do not know exactly the offer price when they purchase shares. Nowadays this is the most diffused IPO procedure in Italy.

From 1994 tax incentives for Italian firms going public are at work<sup>10</sup>. Up to 1997 income realized by newly listed small and medium size firms (issuing new shares) has been levied at a reduced rate equal to 21%. In 1997 a further tax reform allowed all Italian companies to apply a reduced tax rate equal to 19% (*dual income tax*) at the income deriving from new equity capital raised or ploughed-back profits. In order to induce firms, particularly SMEs, to go public, a particular disposal has been introduced for companies newly listed on Stock Markets: for three years the relief of 19% can be reduced to 7%.

The Italian Stock Exchange (*Mercato Telematico Azionario*, MTA) is divided into three markets: the official Stock Exchange (*Mercato di Borsa*), a market for small caps (*Mercato Ristretto*) and a market for small firms having a high growth potential (*Nuovo Mercato*). The main Stock Exchange lists a relatively low number of companies (242, as at January 2001), with a gross market capitalization equal to 790.277 billion euro representing 68.1% of Italian GNP. Therefore, the mean size of the listed companies is quite large in comparison with other industrialized countries<sup>11</sup>.

#### **4. The empirical analysis**

In this study all firms listed for the first time on the Milan Stock Exchange between 1985 and 1999 have been considered. Nevertheless, not all of them may be considered Initial Public Offerings. In particular, 43 of them simply transferred from other national Stock Markets (in 24 cases from the

“*Mercato Ristretto*” and in 19 from other markets), 8 were already listed on other foreign Stock Markets, 12 simply made no public offerings, 2 have been re-admitted after a period of suspension, 7 issued only restricted voting stock and finally 11 are spin-offs, in which shares are automatically assigned to equityholders. Therefore, the sample is made up of 150 offerings, summarized by listing year in Table II, where the number of cases excluded is also reported.

Table II

Most of the IPOs went public during the late ‘80s, to coincide with the bullish momentum of stock exchanges, and during the late ‘90s, taking advantage of tax benefits and market reforms described in the previous Section.

From several public sources we collected the market prices and the accounting data about the sample firms relatively to the periods before and immediately after the offering, and about the placement’s strategies and techniques.

Among the IPOs of the survey 19 offerings are privatization operations and in 32 cases the issuing firm belongs to business groups whose holding company is already listed (equity carve-outs). The latter IPOs are essentially related to the period between 1985 and 1988 and involve almost all the larger business groups listed on the Stock Market in those years<sup>12</sup>. Remarkably, they represent about 50% of the IPOs in the same period.

With reference to the privatization operations, in the first period banks and assurance companies are especially at stake, whereas in the second public utilities are involved above all<sup>13</sup>.

Considering the sector subdivision of the sample, we referred to a classification adopted by the Italian Stock Exchange (*Borsa Italiana SpA*), which distinguishes among three “macrosectors”, i.e. “industrial” securities, “financial” securities and “utilities”. Table III shows that the majority of the IPOs refers to “industrial” firms, even if “financial” companies have a relevant importance.

Table III

Some descriptive statistics about the sample, which will be related to the long run performance, are summarized in Tables IVa and IVb.

Tables IVa and IVb

First, it is evident a strong scattering of the firms' size; this is due to sectorial peculiarities, as shown by the comparison between the mean and median data of banks and insurance companies and the data of industrial firms, and to the presence of very large IPOs (Enimont, ENI, Mediaset, ENEL). The mean age of the firms is about 44 years, which is remarkably high if compared to US IPOs but similar to other European samples<sup>14</sup>. The fraction of equity capital held by the controlling shareholder after the IPO is on average equal to 61.64%, not sensibly different from other markets<sup>15</sup>. Notice that at the IPO most of the shares (on the average 60.60%) are often assigned to institutional investors.

The short-run performance of the Italian IPOs considered in the sample has been already analyzed by Arosio et al. (2000). They find a mean (median) underpricing equal to 24.78% (8.95%).

The methodology we adopt to measure the long run performance is the computation of both the buy-and-hold returns (BHRs) and buy-and-hold abnormal returns (BHARs):

$$BHR_T = \frac{1}{n} \sum_{i=1}^n \left[ \prod_{t=1}^T (1 + r_{it}) \right]$$

$$BHAR_T = \frac{1}{n} \sum_{i=1}^n \left[ \prod_{t=1}^T (1 + r_{it}) - \prod_{t=1}^T (1 + r_{bt}) \right]$$

where  $r_{it}$  is the performance of IPO  $i$  in month  $t$  (measured on a 21-trading days basis) and  $r_{bt}$  is the performance of the benchmark market index (the historical MIB index) during the same period.

While BHRs measure the IPO performance in the long run, BHARs measure the long run underperformance or overperformance with respect to the market portfolio. According to this approach, we assume that capital gains are reinvested periodically in the same stock rebalancing the portfolio. The method is different from the determination of cumulated abnormal returns (CARs) since in this last case investors are supposed to maintain the same composition of their portfolio thus selling the more profitable stock to invest in the less profitable; yet this strategy seems to be unrealistic.

#### Tables V and VI

Tables V and VI reports the monthly data about the IPOs mean equally-weighted performance (BHRs) for all the sample. Note that the data are not available for all firms, since in some cases (the most recent IPOs) the market prices are not available, and in other cases the firms exit from the market. Therefore, we report in Tables VII, VIII and IX the statistics about homogeneous samples. The one-year mean (median) underperformance for 128 IPOs (listed from 1985 to 1998) is equal to  $-7.52\%$  ( $-9.38\%$ ) but it is not statistically significant, due to the fact that a number of IPOs, relating to the last years of the survey, exhibit huge initial returns following the “new economy” euphoria documented also by Ritter (2001) in the US.

#### Tables VII, VIII and IX

After two years, a sample of 108 IPOs (listed between 1985 and 1997) significantly underperform the market by  $-12.51\%$ , but after three years (in this case the sample is made up by 97 IPOs from 1985 to 1996) the abnormal mean performance is  $-11.53\%$  (not statistically significant). The mean and median three-years IPO underperformance is also shown in Figure 1.

### Figure 1

In aggregate, Italian IPOs in the last 15 years do not seem to significantly underperform the market, but if we split the sample by listing year we find quite a remarkable asymmetry in the results. Figure 2 reports the mean BHARs computed after having grouped the IPOs by listing year. Note that 1985 IPOs tend to underperform the market after one year, but the mean return improves in the following years. The other companies gone public in the late '80s on the average overperform the index. In the '90s the market performance is quite worse: neglecting the early '90s (due to the scarce number of IPOs), offerings from 1996 to 1997 substantially underperform the benchmark, and the result is dramatically evident after one year, as most of these IPOs leave more than 50% wealth relative to the market.

### Figure 2

Figure 3 plots the performance with respect to the market for three group of IPOs. The first one is made up by IPOs from 1985 to 1989 (in which equity carve outs are particularly numerous), the second comprises IPOs from 1990 to 1994 (in this case large privatization IPOs are present) and the third one relates to IPOs from 1995 to 1998 (in this case many small companies are involved, and note that the market momentum has been particularly sustained in these years). On the contrary, no statistically significant pattern is detected by splitting the sample among industrial companies, financial companies, service and utilities. In fact, the results are strongly influenced by high dispersion of the IPOs performance (for example, some firms in the service/utilities sector listed in the late '90s have been influenced by the “new economy” and Internet euphoria).

Figure 3

Table X

On the average, the oldest IPOs overperform the market, while IPOs in the earlier '90s gradually tend to underperform the market. Remarkably, the youngest IPOs in the short run seem not to perform differently from other firms, but in the long run they exhibit severe underperformance. This latter phenomenon may be related to the fact that small IPO firms – while appreciated in the short run for the initial underpricing - tend to be neglected by investors in the long run, this creating a downward pressure on the market price.

The results reported in Table XI seem to confirm this hypothesis, since we show that the initial trading volume of IPOs (relative to the offer size) is negatively related to the long run underperformance. The correlation is significant both considering the performance over two or three years, and the relative turnover after one, five or ten days of trading.

Table XI

Since the initial turnover may be related to the “flipping” activity (i.e. investors selling IPO shares in order to take advantage of the initial underpricing), we may also hypothesize that some investors possess superior information than the market, and are able to point out the worst IPOs. Therefore they divest as soon as possible their shares in order to capitalize any gain, and the liquidity of the stock is negatively influenced.

(TO BE COMPLETED WITH FURTHER ANALYSES)

## **5. Concluding remarks**

(TO BE WRITTEN)

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## Endnotes

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<sup>1</sup> See Ritter (2001) and Jenkinson and Ljungqvist (2001).

<sup>2</sup> A popular normative model is the Fama-French (1993) three-factors model.

<sup>3</sup> In fact, he proves that with restricted short-selling (like in the early post-offering period) stock prices are generally higher with a greater divergence of opinion about expected security returns. Long-run prices decrease as the most optimistic investors lower their appraisal of the firm.

<sup>4</sup> This hypothesis is however rejected by Kim et al. (1995) and Lee et al. (1996) for the Korean and Australian market respectively.

<sup>5</sup> Levis (1993) and Aggarwal et al. (1993) report that IPOs with moderate initial returns perform better than those with negative or large initial returns. Ejara et al. (1999) find that IPOs with zero initial return perform consistently better than the market.

<sup>6</sup> For the purpose of this paper, we focus only on public offerings and neglect private placements.

<sup>7</sup> Fische (1999) states that in the US Best Efforts contracts tend to be used for smaller IPOs where demand is more uncertain. In fact in Italy IPOs rarely involve very small firms.

<sup>8</sup> The new issue process is regulated by a public authority, CONSOB, which performs a role that is comparable to the SEC in USA, and by a private company, Borsa Italiana SpA, who manage the Stock Markets in Italy. CONSOB (<http://www.consob.it>) has to be informed in advance of the offering conditions and has to certify that the issuer provides adequate information to the public (collected in an officially approved prospectus). Borsa Italiana (<http://www.borsaitalia.it>) deliberates the admission to the listing, after having verified all the necessary requirements.

<sup>9</sup> On the contrary single-bid and multiple-bid auctions are common in other countries, such as France, Japan and Israel. For a detailed description of these procedures see Vandemaele (1999).

<sup>10</sup> See Giudici and Paleari (2000).

<sup>11</sup> Details about general characteristics and ownership structure of the Italian listed companies may be found in the CONSOB and Borsa Italiana SpA Internet pages (see footnote 8). Although in the last years the number of listed companies has not significantly increased, a relevant turnover has considerably reset the Stock Market outline.

<sup>12</sup> In fact, the phenomenon is imputable to the process of “financial dismantling” and separation between ownership and control experienced in Italy during the ‘80s by large business groups and documented by Brioschi et al. (1990).

<sup>13</sup> Actually also in the second period the privatization process in the banking sector has been relevant; nevertheless, it has been realized through public offerings of shares held by the State but already listed on the Stock Market.

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<sup>14</sup> For example, in Ljungqvist's (1999) survey of US IPOs the mean age is 10 years; Habib and Ljungqvist (1999) also refer to the US market and report a mean age equal to 14 years. In Europe a higher comparable mean age is reported by Vandemaele (1999) for the French market (44 years), Roosenboom et al. (1999) for the Netherlands (35 years), Holmen and Högfeldt (1999) for Sweden (31 years).

<sup>15</sup> Cooney et al. (1999) find 67.4% in their US sample, Lee et al. (1999) 53% for the Australian market, Goergen (1998) 76.4% and 62.6% for the German and UK market respectively, Roosenboom et al. (1999) 64.6% for the Netherlands.