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I

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Luca Gianazza

Coin clipping and monetary crisis: the case of the Italian ducato

The first issues of silver *scudi* in Milan dates back to Charles V (1535-1556) and would not be prior to 1551¹. This coin was probably born as a silver piece equivalent to the gold *scudo*, following an evolution similar to what had happened in Tyrol with the issue of the *halbguldiner* and *guldiner*, respectively in 1484 and 1486. Within a few years, the different increase recorded by the two metals, with gold rising in value more than silver, led to a considerable difference in the prices of the two *scudi*. In 1557 the silver *scudo* changed substantially: the initial fineness of 10 deniers 22 grains (= 909.72 ‰) was brought to 11 deniers 11 grains (= 958.33 ‰), while the weight decreased from $6\frac{1}{4}\frac{1}{8}$ to the marc of Milan (= 37.41 grams) to $7\frac{1}{2}$ (= 31.33 grams)². During the years the characteristics of the silver *scudo* remained stable, with small adjustments only in the weight, up to $7\frac{1}{4}\frac{2}{28}\frac{1}{24}$ to the marc (= 32.33 grams) in 1583³ but kept during the following decades.

From 1586-87 the name of *ducatone* started to be preferred to that of *scudo*⁴. Meanwhile, several other mints began to issue its own silver *scudo/ducatone*, approximately with the same characteristics in terms of weight and fineness of the Milanese one, thus making the *ducatone* a new international standard.

Today we know several *ducatoni* of reduced weight, as a result not of a change in the official characteristics, rather than of a heavy clipping. Assuming that all the *ducatoni* of reduced weight are the evidences of fraudulent actions only does not seem realistic: the weight reductions are in the order of several grams, and could have been appreciated without the need of scales.

The coin hoards document the circulation of clipped *ducatoni* together with other pieces of correct weight. In Casalmaggiore (Cremona; *t.p.q.* 1640), among the 40 silver pieces – mainly *scudi* of Venice and *ducatoni* – we find a *ducatone* of Parma dating 1630 of 27.36 grams, a so called *scudo* of Ferrara dating 1624 of 28.99 grams, and a *scudo de la croce* of Venice dating to 1583-84 of 27.46 grams⁵, much lower than the 31.8-32 grams

expected for these coins⁶. From Margno (Como; *t.p.q.* 1599) comes a *ducatone* of Milan dating 1579 of 29.77 grams⁷, but here the most evident reduction of weight is shown by the Venetian *scudi da 80 soldi*: five of the eight pieces found there show a weight between 15.55 and 16.22 grams⁸, reduced compared to the 18 grams normally expected for this type of currency. A hoard from Ronago (Como; *t.p.q.* 1611)⁹ does not include any clipped *ducatone*, but a *scudo da 80 soldi* of Venice in the name of Niccolò da Ponte (1578-85) of reduced weight. In Switzerland, among the 17 *ducatoni* found in Bourg-St-Pierre (Valais; *t.p.q.* 1632) there are two from Milan, with a weight of 27.90 grams and 26.63 grams respectively¹⁰. From Wädenswil (Zürich; *t.p.q.* 1632), a Milanese *ducatone* dating 1594 of 28.17 grams, as well as a Venetian *scudo della croce* of Francesco Erizzo (1631-1646) of 29.05 grams¹¹. Finally, on the Theodulpass (Valais; *t.p.q.* late 1600s) has been discovered a Milanese *ducatone* of 26.95 grams, together with a fake piece and a clipped *Philipstaler* from Anvers in the name of Philip II of Habsburg of 29.95 grams¹².

Figure 1 proposes the weight distribution of approximately 1,200 Italian *ducatoni* surveyed for this study. We immediately notice a densification of samples between 26 and 28 grams, with a peak at around 27.5 grams and a minimum around 24 grams.

The overall uniformity suggests that the reduction of weight has been driven by specific reasons, to be found primarily in the economic situation of the years during which the aforementioned hoards have been concealed. The dynamism that characterized the first half of the 16th century rapidly faded away¹³. During the last quarter of the century, Europe progressively stepped into a phase of deep crisis that lasted for most of the following century. The flow of bullion coming from the Americas, at the base of the European monetary issues, dramatically reduced starting from the 80s of the 16th century. This led to a general decline in the production of coins in the mints of northern Italy, mostly evident during the two decades around the year 1600¹⁴. Meanwhile, the decreased

¹ Argelati 1750, p. 36.

² To follow the evolution of these changes year after year, see Argelati 1750, pp. 36-38.

³ Argelati 1750, p. 36, notes 1-6.

⁴ A document dating January 14, 1587 describing the characteristics of the coins minted during that period by the mint of Milan, lists *ducatoni* with a fineness of 11 deniers 12 grains. This document is now in a private collection. In the Duchy of Savoy, the term *ducatone* may have already appeared the year before, in 1586, but the sources where this term is reported are not contemporary as in the case of Milan (De Facis 1725; Promis 1841-42, II, pp. 78-79).

⁵ *Repertorio* n. 6667; Martini 1990, nn. 21, 38, 40.

⁶ Papadopoli 1919, *passim*. The coin had a fineness a *peggio 60* (= 947.92 ‰) and weighted 615 grains (= 31.83 grams).

⁷ *Repertorio* n. 6652; Chiaravalle 1991, pp. 12-13, n. 4.

⁸ Chiaravalle 1991, pp. 14-19, nn. 8, 10-13.

⁹ *Repertorio* n. 6661; Chiaravalle 1991a, p. 12, n. 1.

¹⁰ *Repertorio* n. 8938; Cahn 1973, pp. 111-126, nn. 331, 337.

¹¹ *Repertorio* n. 8939; Cahn 1973, pp. 141-151, nn. 8, 90.

¹² *Repertorio* n. 8862; Diaz Tabemero, Gianazza 2014, pp. 76-77, nn. 5-6, 9.

¹³ The study of these macro-economic phenomena goes beyond the scope of our investigation. See Fischer 1996, and the extensive bibliography in it, for any further deepening.

¹⁴ Spooner 1972 (in particular chap. 1 for the flow of precious metals,

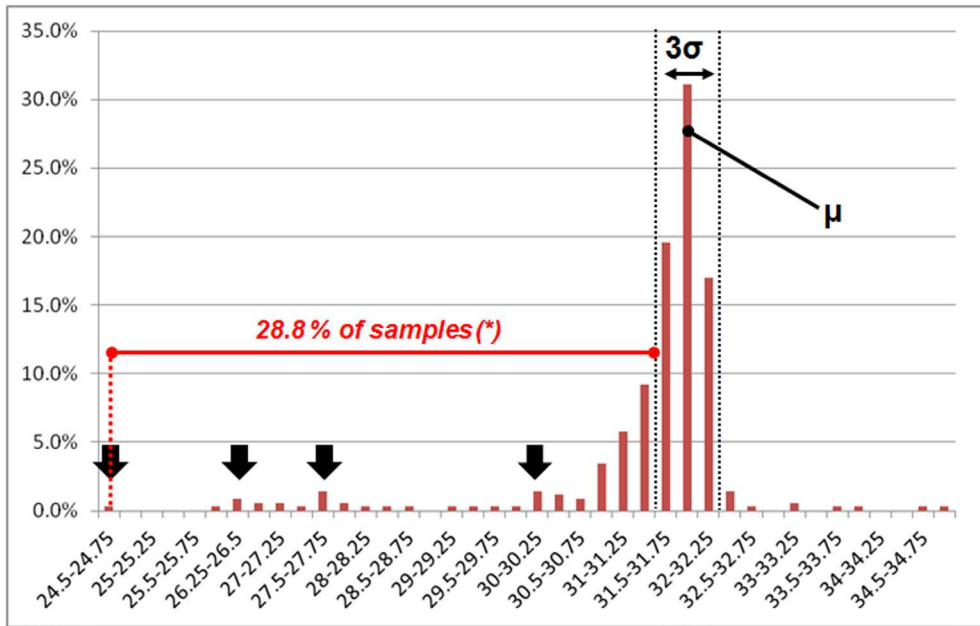


Fig. 1 Weight distribution of the Italian ducati (1551-1640) surveyed for this study (μ : theoretical weight; σ : remedium in pondere). Arrows show the relative peaks given by the clipped ducati.

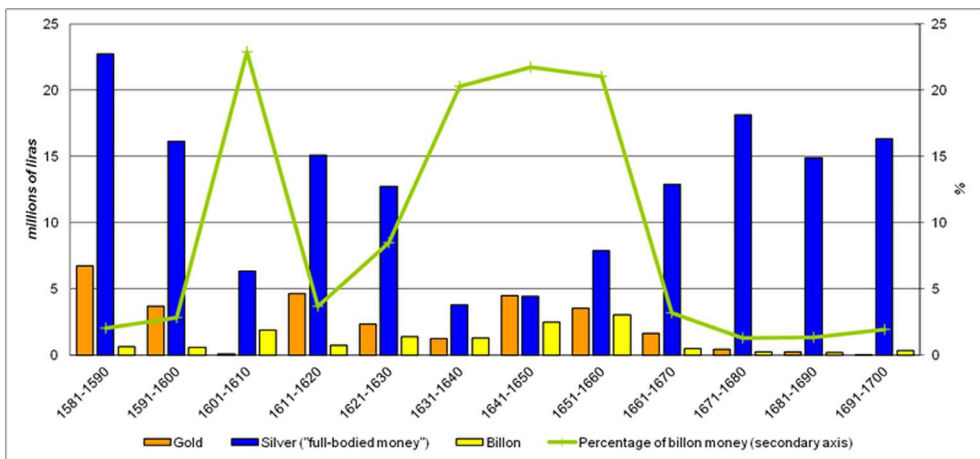


Fig. 2 Production of the mint of Milan, 1581-1700 (data from Cipo11a 1952).

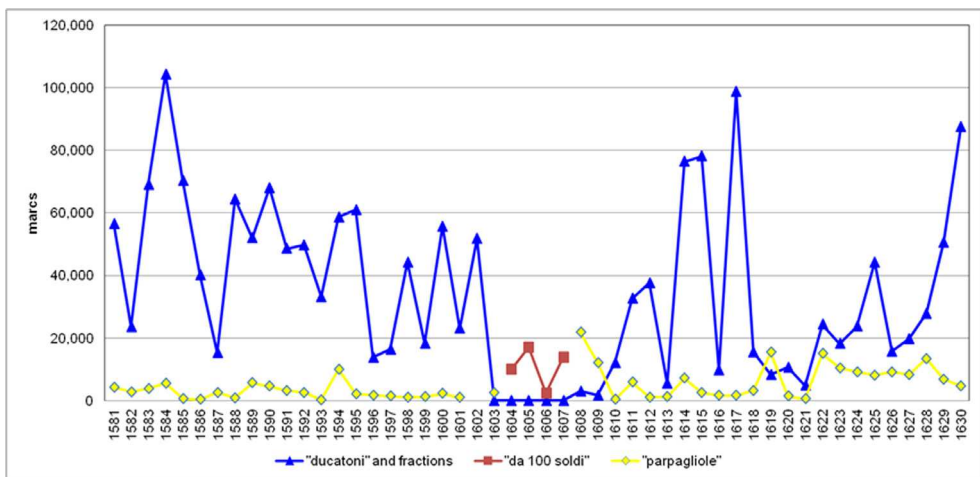


Fig. 3 Production of ducati, ilippi and parpagliole in the mint of Milan, 1581-1630 (data from Cipo11a 1952).

availability of precious metals on the market triggered a significant increase in the price of gold and silver, and in turn in the value of circulating coins¹⁵. In the Duchy of Milan, between 1590 and 1607, the golden *doppia d'Italia* saw its value rising of about 20% before reaching a steady point, and then slightly declining¹⁶. In the same years, between 1589 and 1608, in the Duchy of Mantua the *doppia d'Italia* increased by 33% and the *ducatone* by 21%, continuing the growth even in following years¹⁷. The production of the mints changed radically. The scarcity of bullion and its high price on the market prompted the mints to increase considerably the percentage of small coins of poor allow over the total. Between 1601 and 1610, in Milan the absolute value of the minted coins reduced by 60% compared to the previous decade. The issues of small coins decreased in absolute terms, too, but in percentage they raised up to a 23% of the total value (it was around 3% just ten years before). The gold issues fell even below 1%, compared to 18% in the years 1591-1600 and 22% in the years 1581-1590 (Fig. 2). In 1603-04 the mint of Milan stopped issuing *ducatoni*, creating a new, lighter currency of 28 grams only named *ilippo* (Fig. 3).

Therefore, it may not be a causality that most of the clipped *ducatoni* known today is represented by pieces minted in the 1600-10 decade, or belonging to hoards concealed before 1610. They anticipate, or are contemporary to an economic crisis occurred in the Duchy of Milan between 1607 and 1609, which had important reflections in a dramatic reduction of the issues of the mint of Milan, and an overall cooling of the rates in the currency exchange market. The recovery was swift, and quickly led to a real economic “boom” in the years 1613-1619, despite the violent crisis that swept through Europe since 1618 as a result of the Thirty Years’ War threw the Duchy of Milan in a depressive phase of longer range, destined to run out well after the half of the century¹⁸.

The clipping of *ducatoni* and of other silver coins can be linked to the need of currencies more tailored to a deteriorated economic situation. *Ducaton*

of about 28 grams have an equivalent value of the *ilippi*, issued only in the late 1600s. *Ducaton* and *ilippi* showed approximately with the same fineness: thus, a transformation could be achieved effectively by decreasing the weight of the *ducatone* of about 4 grams¹⁹. The reduction of the *scudo* of Venice to 15.5-16 grams can be justified with the need of a currency equivalent to the half *ducatone*. The theoretical fineness of these coins was established in a *peggio 60* (= 947.92 ‰)²⁰, equivalent to 11 deniers 9 grains, only three grains less than what expected for the Milanese *ducatone*.

Ducaton of 26 grams or less tend to show an exchange rate close to what usually recorder by the *real de ocho* of Spain, despite the difference in terms of allow (tab. 1)²¹. Moreover, if we look at the monetary systems of the duchies of Savoy and Montferrat, we find an excellent match with the *scudo da 108 grossi* of account in use in the years immediately after a monetary reform in 1587. This approximation, however, remains valid only for the clipped *ducatoni* weighting around 26 grams. Above all, it is applicable only in the years when the course of *ducatone* remained equal to 135 *grossi*: again, not after the years 1605-1607.

The clipping of silver coins of large modules reduced considerably after 1608. Between 1610 and 1614 most of the states who used to mint *ducatoni* went through a strong debasement of the currency in response to the crisis of those years²². The striking of *ducatoni* stopped in several mints, replaced by new silver pieces, usually much lighter or with lower fineness. The mints of the duchies of Savoy and Montferrat largely issued silver *scudi da 108 grossi*, before then not a metallic currency but a mere unit of account²³. In the Duchy of Milan the devaluation of the currency was not so radical, thanks also to the renewed economic expansion of the years 1613-1619, during which the local mint returned to issue volumes of coins comparable to what produced in the decade 1591-1600, with a percentage of small coins dropped below 4% of the total nominal value²⁴.

and chap. 4 for the monetary volumes of the mints in the French territory). The indications of a monetary contraction that emerge for the French area are confirmed for the Duchy of Milan by the data proposed in Cipolla 1952, and for the Duchy of Savoy by the shortage of coins dating to the 1588-1610 period known today.

¹⁵ The data currently available are largely incomplete, and allow investigations limited to certain geographical areas only. The sources – with a few exceptions such as the data reported in De Facis 1725 – primarily consist of the courses established by official decrees, the so-called *gride*. The values reported in these documents do not necessarily correspond to what used in everyday life, where the coins were often changed in a more coherent way with the actual market conditions; see Cipolla 1952, pp. 20-21 for examples contextualized to the Duchy of Milan. This phenomenon is usually referred to in the documentation of the time with the term *circolazione fuori banco*, to distinguish it from the *circolazione in banco*, which was based on the courses officially set by the decrees; see Belloni 1803, pp. 123-125; Beccaria 1854, pp. 449-450.

¹⁶ Cipolla 1952, p. 65. However, the data on the *ducatone* before 1605 are missing.

¹⁷ Gianazza 2011, pp. 287-288, tab. 1.

¹⁸ Cipolla 1952, pp. 35, 42-48. For a wider discussion see for example Aston 1965; Braudel – Spooner 1965; Parker – Smith 1997.

¹⁹ The first issue of *ilippi* by the Milanese mint dates back to 1604 (Argelati 1750, p. 39, note 2). The coin had a fineness of 11 deniers 9 grains (= 947.92 ‰) and weighted $8 \frac{40}{187}$ to the marc of Milan (= 28.61 grams). The *grida* issued on May 24, 1602 – i.e., before the start of the issue of this coin – set for it a value of 5 liras, and the same fineness as the *ducatone* (Crippa 1990, p. 239). It is therefore possible that, at least in the preliminary stages of its minting, the *ilippo* was conceived as a coin with the same intrinsic content of the *ducatone*.

²⁰ Papadopoli 1907, p. 356.

²¹ In a Flemish tariff (*Carte* 1627) the *reales de a ocho* are presented with a fineness of 11.3 deniers (= 927.08 ‰) and a weight of 17 esterlins and 24 as (= 27.30 grams)

²² Promis 1841-42, I, pp. 469-470. In the order of December 17, 1610 for the mint of Turin, the *cavallotto* of 3 groats was set to a fineness of 2 deniers (= 166.67 ‰) and weighted 96 to the marc of Paris (= 2.55 grams). The ducal order of June 15, 1587, however, stated that the same currency should have a fineness of 3 deniers 1 grain (= 253.47 milligrams) and weight 82 to the marc of Paris (= 2.98 grams). The ratio between the contents of precious metal specified in the two decrees determines a theoretical devaluation of approximately 44%.

²³ Promis 1841-42, I, p. 470; Gianazza 2011, pp. 272-274.

²⁴ Cipolla 1952, pl. I-III at pp. 42-43.

value in grossi (groats) of Montferrat	date	crosazzo	ducatone	crosone	da 100 soldi	tallero	scudo di zecca
	1595 June 8	-	140	112	-	-	-
	1603 June 26	-	140	112	-	-	-
	1608 August 11	-	150	120	138	-	-
	1611 October 1	189	156	126	138	123	-
	1612 May 21	189	156	126	138	120	-
	1613 January 12	189	156	126	138	120	-
	1615 November 8	195	162	129	-	126	-
	1620 February 8	240	204	168	180	-	126

expected weight (in grams) for an equivalent clipped ducatore	date	crosazzo	ducatone	crosone	da 100 soldi	tallero	scudo di zecca
	1595 June 8	-	32.0	25.6	-	-	-
	1603 June 26	-	32.0	25.6	-	-	-
	1608 August 11	-	32.0	25.6	29.4	-	-
	1611 October 1	38.8	32.0	25.8	28.3	25.2	-
	1612 May 21	38.8	32.0	25.8	28.3	24.6	-
	1613 January 12	38.8	32.0	25.8	28.3	24.6	-
	1615 November 8	38.5	32.0	25.5	-	24.9	-
	1620 February 8	37.6	32.0	26.4	28.2	-	19.8

Table 1 Value of the most widely spread silver pieces in the Duchy of Montferrat (above, in groats of Montferrat) and corresponding weight of an equivalent clipped *ducatone* (below, in grams).

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Carte 1627 = *Carte ou liste contenant le prix de chacun marcq, once, esterlin et as, poids de Troyes, de toutes les especes d'or et d'argent defendues, legieres, ou trop useés, et moyennant ce declarées pour billon, comme les maistres des monnoyes et changeurs sermentéz sont tenuz d'en payer pour icelles, selon l'ordonnance de sa Maiesté, faicte par les Generaux des Monnoyes, au mois de mars 1627 avecq les i gures desdictes especes*, Anvers.

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valore delle monete vecchie cavate dal Surdo e Nevizano, con il peso, e bontà delle monete d'oro e d'argento dal 1581 in al 1688; con la nota de' carighi locali; regola per li servitori di campagna, e nuova tavola de' giorni feriat, ne' quali gli Eccellentissimi Magistrati di qua da' monti non sedono, Torino.

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