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Dirham Mint Output of Samanid Samarqand and its Connection to the Beginnings of Trade with Northern Europe (10th century)

Roman K. Kovalev

In memoriam of Thomas S. Noonan (1938-2001)

- 1 The great Viking-age (ca. 800-ca. 1050) trade which brought millions of dirhams or Islamic silver coins from the Muslim East to northern Europe is well known to medieval numismatists and historians¹. Of the dozens of Islamic dynasties ruling lands from Spain to eastern Afghanistan whose coins were exported to northern Europe, those minted by the Sāmānid armīrs in Central Asia during the late ninth and tenth centuries clearly predominate overall all the rest². More than 75% of all dirham hoards buried in northern Europe were deposited there during the tenth century and the overwhelming majority of these hoards were composed primarily of Sāmānid dirhams. In fact, the Sāmānids appear to have struck dirhams specifically for this great northern trade³. The scale of this commerce was enormous by any pre-modern standards. In a recent study, the late Thomas S. Noonan had estimated that 125,000,000 whole Sāmānid dirhams were imported into northern Europe during the tenth century. Thus, on the average, 1,250,000 whole dirhams were exported north from the Sāmānid lands every year during the course of the tenth century⁴.
- 2 The importation of dirhams from the Sāmānid realm to northern Europe began in ca. 900⁵, just a decade or so after the earliest indirect reference to trade between the Sāmānids and northern Europe was noted in the Islamic sources⁶. During the tenth century, Sāmānid dirhams were brought to northern Europe via the lands of the Volga Bulghars of the middle Volga who were strategically located along the main route between Central Asia and the Rus' lands. The southern part of the route began in Transoxiana, traversed *Khwa* *razm*, and, thereafter, entered Volga Bulgharia by a caravan route. According to Ibn Faflān who traveled along this caravan road in 921-922, it took seventy days to journey from

the Khwārazmian city of Jurjānīyah/Gurgānj (the last major Central Asian Islamic city on the route) to the Volga Bulghār capital of Biliar-Bulghār⁷. In his work, Murudj al-dhahab (compiled in ca. 934), Mas'udi noted that “caravans constantly go from them (i. e., the Volga Bulghārs) to Khwārazm in the land of Khorasan, and from Khwārazm to them...”⁸. During the summer months, Rus'/ar-Ras merchants sailed to the middle Volga from various centers in northern and central Russia to trade their goods (slaves, swords, furs, wax, and other commodities) for dirhams which they received from the Volga Bulghārs⁹. The Rus' accepted only dirhams in return for their merchandise¹⁰. Thereafter, the Rus' sailed back to their home bases in Russia with their dirhams. In this way, dirhams could be transported from Transoxiana to northwestern Russia in less than a year. Based on numismatic evidence, most dirhams were, in fact, exported from the Sāmānid lands to European Russia within a year or two after being struck¹¹.

- 3 The millions of dirhams that were brought to the Rus' lands became part of the local coin-stock used in the exchange of domestic goods and services for several centuries. In addition, for almost two hundred years, the Rus' used this imported silver to balance their foreign trade with other countries of northern Europe, as is evident by the huge volumes of silver outflow from northwestern Russia into the Baltic region during the same period: 70-80% of all dirhams that entered the region were re-exported, mostly to Sweden¹². Thus, the significance of the importation of Islamic silver coins for the history of early Rus' and Viking-age northern Europe, in general, cannot be underestimated.
- 4 To better understand trade relations between the Sāmānids and northern Europe, it is imperative to examine how, when, and why the Sāmānids minted millions of dirhams in the late ninth and tenth centuries. Over the last several years, Thomas Noonan and I have dedicated two studies to the production of dirhams at two medieval Islamic mints: al-Andalus of Umayyad Spain and Balkh of the Sāmānid amirate¹³. Both of these studies relied on the examination of the dirhams discovered in coin hoards deposited throughout western Eurasia during the eighth to the eleventh centuries. Based on the total number of preserved dirhams in each hoard, it was possible to estimate the patterns of mint production of the two mints. This evidence permitted us to identify the peaks and troughs of each mint and, in the case of Balkh, to determine how long its coins circulated in northern Europe. Independently, I have recently carried out a similar analysis for the mint of Bukhārā, – the Sāmānid capital¹⁴.
- 5 The idea behind these attempts to reconstruct the patterns of dirham production in the medieval Islamic world had its origins some fifteen years ago when Thomas Noonan dedicated a study to the mint output of the early 'Abbasids (750-850)¹⁵. For this study, he developed a new method for estimating the production of medieval Islamic mints. The same approach was applied to the examination of the mint outputs of al-Andalus, Balkh, and Bukhārā. The thrust of the argument for such an approach can be summed up below.
- 6 There are two main approaches to the study of medieval Islamic mint production. One approach tries to estimate the total number of dies used for striking the coins from a given mint in any year. It then estimates the number of dirhams produced by each die to project the total mint output in a given year. While this method has many advantages, especially the projections of total annual mint output, it is a painstaking task to estimate the number of dies used by a mint during any given year and the number of dirhams struck by each die is the subject of great controversy. Consequently, it is difficult using the die-count approach to measure mint production over long periods of time¹⁶.

- 7 The problems associated with the die-count approach inspired the search for alternative methods to estimate mint production. One such alternative was developed by Thomas Noonan and is based on the assumption that the number of dirhams found in hoards reflects mint output over a given time period. In other words, the more coins that are struck in a given year, the greater are the numbers of coins from that year that are found in hoards. Bengt Thordeman demonstrated the reliability of this approach in a well-known article published many years ago¹⁷. The limitation of this approach is that it only provides relative and not absolute figures. It indicates whether the output of a given mint was greater or smaller in some years than others and it thus suggests the degree of difference in production amongst years in the same mint. The hoard-count approach does not give us the total output for any given year. Similarly, it compares the relative production of different mints during a given time period. This approach does not provide data on their absolute output. Any large study of mint outputs must therefore attempt to combine both methods. At the same time, the hoard-count method does shed much light on the general patterns of mint output for specific years and the reigns of Islamic rulers. This information can be very useful when discussing the general trends in trade relations between the Sāmānids and northern Europe based on the study of hoards: their chronology, numbers, and compositional profiles.
- 8 The present study will continue the discussion of medieval Islamic dirham output using the hoard-count approach. The mint chosen for the inquiry is Samarqand – one of the key Sāmānid commercial and administrative cities. Samarqand was located in the province of Soghdia, situated just six to seven days' travel from Bukhārā. During the Sāmānid era, Samarqand saw its zenith as it came to be the largest city in area and population (500,000 inhabitants) in Transoxania, surpassing even Bukhārā. It lay at the junction of key trade routes to India via Balkh, Persia via Marw, and the Turkish lands¹⁸. Samarqand also had one of the most prolific Sāmānid mints during the tenth century, with an output that was rivaled only by al Shāsh. In light of the above, the production of dirhams by the mint of Samarqand should be of immense interest to those concerned with the great Viking-age trade between the Sāmānid lands and northern Europe.
1. A survey of numismatic data used in the study
- 9 The data for this inquiry derives from the study of 1,620 dirham hoards – defined as a deposit of five or more dirhams – discovered throughout western Eurasia dating from the eighth to the eleventh centuries. Out of these 1,620 hoards, 1,238 date from the tenth to the eleventh centuries. An examination of these 1,238 hoards revealed that 634 of them or half of the total contained Sāmānid dirhams struck in Samarqand and all but one were deposited during the tenth and the eleventh centuries¹⁹. The territorial distribution of these hoards spans a huge area – from Afghanistan in the east to Ireland in the west (see Table 1). Thus, Sāmānid dirhams struck in Samarqand circulated widely outside of Central Asia during the tenth and eleventh centuries.

Table 1. *The spatial distribution of Samanid Dirhams struck in Samarqand*

<i>Regions</i>	<i>Number of Hoards</i>	<i>% of Total Hoards</i>	<i>Number of Dirhams</i>	<i>% of Total Dirhams</i>
Czech Rep. , Slovakia & Hungary	3	0.47	7	0.047
Caucasus	4	0.63	30	0.202
British and Celtic Isles	5	0.79	16	0.108
Norway	8	1.26	52	0.349
Finland	10	1.58	70	0.471
Central Asia	12	1.89	167	1.123
Northern Germany	15	2.37	178	1.197
Near East	18	2.84	293	1.978
Denmark	31	4.89	557	3.747
Poland	44	6.94	487	3.277
S. E. Baltic	51	8.04	818	5.503
Russia, Ukraine, and Belarus	111	17.50	2,960	19.913
Sweden	322	50.80	9,230	62.092
TOTAL	634	100.00	14,865	100.000

- 10 The 634 hoards yielded at least 14,865 Samanid dirhams struck in Samarqand²⁰. Of these coins, 12,065 can be dated to precise years (e. g., 944-945), while 1,887 can only be assigned to the general years of rule of seven Samanid amirs (see Table 2). Thus, the available sample provides 13,952 (12,065 + 1,887) datable dirhams with which to work. These figures along with the 634 hoards thus become the main database for the study of Samarqand's mint output.

Table 2. Dirham mint output of Samarqand by Samanid ruler

<i>Sāmānid Amīrs</i>	<i>Number of Dirhams Without Exact Dates</i>	<i>Number of Dirhams With Exact Dates</i>	<i>Total Number of Dirhams</i>	<i>% of Total</i>
Ismā'il ibn Ahmād I 892-907	188	2189 (3-4 struck by Sāmānid rebel Yahyā ibn Ahmād)	2,377	17.04
Ahmād ibn Ismā'il II 907-914	181	2047 (1 struck by Sāmānid rebel Yahyā ibn Ahmād and 33 struck by the Sāmānid rebel Ishāq ibn Ahmad)	2,228	15.97
Naṣr II 914-943	918	5546 (7-8 struck by Sāmānid rebel Yahyā ibn Ahmād)	6,464	46.33
Nūh I 943-954	434	1370 (7 struck by the Sāmānid rebel Ibrāhīm ibn Ahmad)	1,804	12.93
'Abd al-Malik I 954-961	60	306	366	2.62
Maṣṣūr I 961-976	85	355	440	3.15
Nūh II 976-997	21	252	273	1.96
TOTAL	1,887	12,065	13,952	100.00

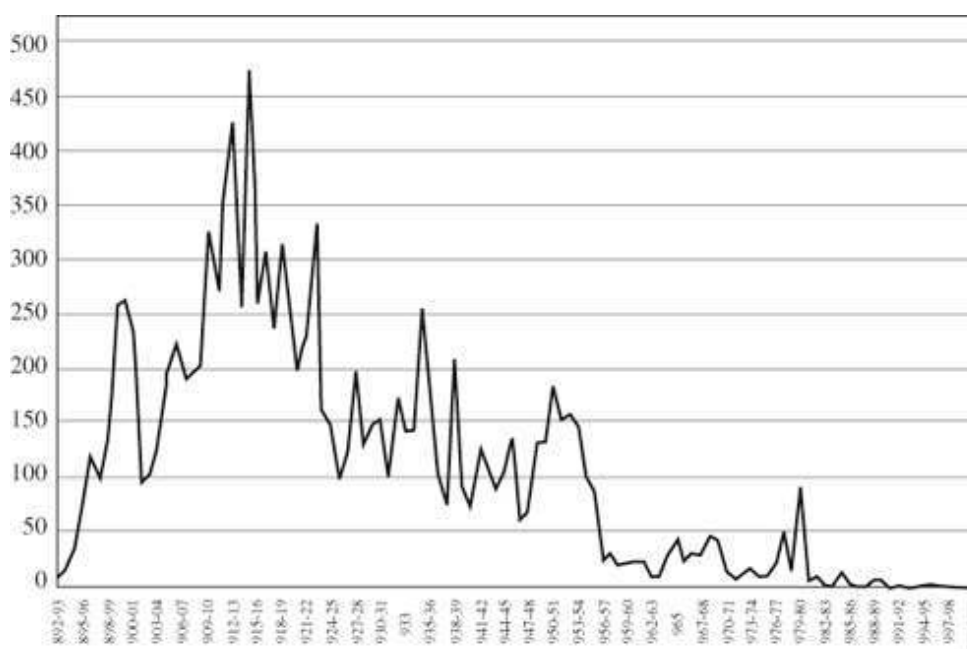
11 On examining Table 1, it is instructive to make two important observations. First, 98% of all the hoards containing Samarqand dirhams and almost 99% of all the dirhams from this mint were discovered outside of Central Asia. Therefore, dirhams minted by the Sāmānid in Samarqand, like those struck in Balkh and Bukhārā by this dynasty, appear to have been coins intended primarily for export. If these coins were struck for local circulation in Central Asia, one would find a much greater number of hoards containing Sāmānid dirhams in the region²¹. Second, an examination of the geographic distribution of hoards with Samarqand dirhams shows that 94% of them and almost 97% of the dirhams struck at this mint were discovered in northern Europe, while the remaining 6% of the hoards and 3% of the dirhams were deposited in the southeast of western Eurasia: Central Asia, the Near East, and the Caucasus. Thus, the evidence at hand strongly suggests that the overwhelming majority of the dirhams struck in Samarqand gravitated towards northern Europe and that these dirhams were struck specifically for trade with this region.

2. Mint output of Sāmānid Samarqand

12 Overall, our data shows that the mint in Samarqand was active during much of the Sāmānid era. Between 892-893, when the Sāmānid first began to systematically mint dirhams in their own names, and 1005, when the last Sāmānid amir was deposed, there were only thirteen years for which no dirhams from Samarqand are recorded in our sample – all occurring at the very end of the Sāmānid period. This data is presented below in Graph 1. While Samarqand was active as a mint during much of the late ninth and tenth centuries, there are some notable peaks and falls in its output. Thus, dirhams came to be struck at ever-increasing rates beginning with 892-8/93 and reached a production zenith in 909-910/914-915. The very next year, in 915-916, mint output in Samarqand suddenly dropped in production and continued to decline steadily for the rest of the tenth century. Until the mid-950s, while producing fewer dirhams, the decline was by no means catastrophic: 34% of all dirhams struck in Samarqand by the Sāmānids were issued

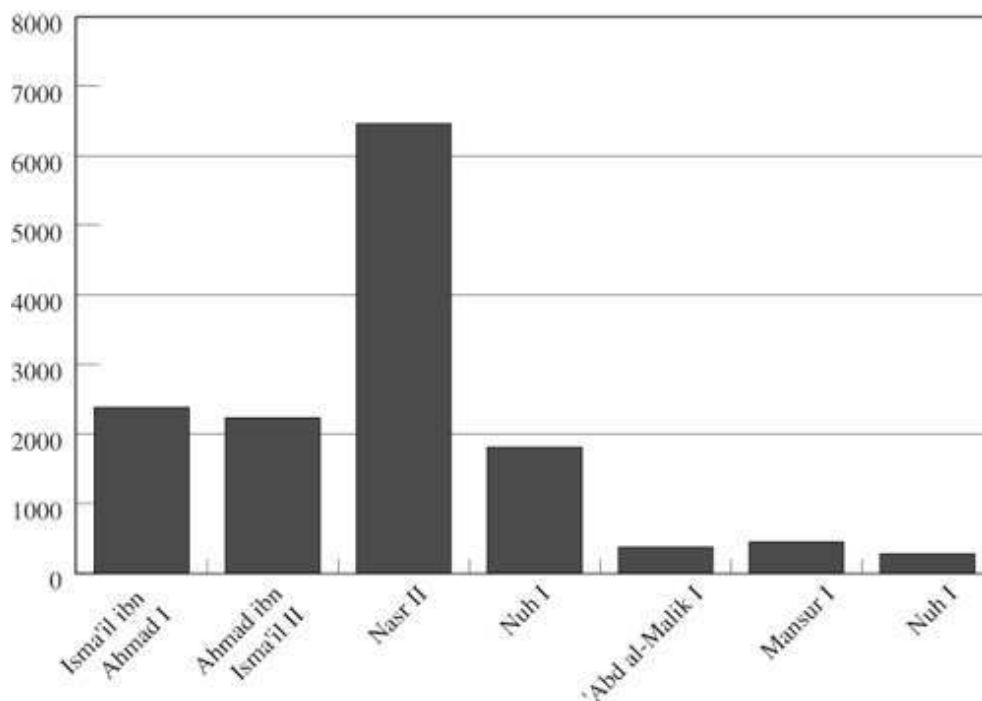
between the mid-920s and mid-950s. Overall, 92.26% of all dirhams struck at the mint were issued before the mid-950s. From 956-957, there was another major drop in production which, in relative terms to the output prior to then, can be considered near catastrophic. This decline continued into the 970s (the exceptions were the years 977-978 and 979-980 which will be discussed below) and by the 980s the mint experienced another drop which signified the total collapse in the production of dirhams in Samarqand. In the 990s, few, if any, dirhams were struck at the mint and after 997-998 no Samarqand dirhams struck by the Sāmānids are recorded in our database.

Graph 1. Dirham output of Samarqand by year under the Samanids
(Based on Dirhams with Exact Years)



- 13 Let us now look closer at the mint production by the reigns of Sāmānid amirs [see Graph 2]. Sāmānid dirhams were first struck by Ismā'il ibn Ahmad I (892-907). The earliest issues from Samarqand by this amir come from 892-893. From this year until the end of his rule in 907, Samarqand produced ever-increasing quantities of dirhams, reaching a zenith in output by 900. Two years later (in 901-902), however, there was a dramatic decline by 280%. The mint showed a slight increase in activity in 902-903 and rebounded in 905-906 to pre-901-902 levels²². Overall, 17.04% of all dirhams minted in Samarqand by the Sāmānids were struck during the seven-year rule of Ismā'il ibn Ahmad I. He was the second-most prolific amir in striking dirhams in Samarqand [Graph 2].

Graph 2. Dirham output of Samarqand by Samanid Amirs
(Based on Dirhams With and Without Exact Years)



- 14 Mint output continued to escalate during the seven-year reign of Ahmad ibn Isma'il II (907-914). It experienced new heights in 909-910/911-912, reaching a crest in output in 912-913 when the mint issued 163% of the previous peak witnessed in 900 under Isma'il ibn Ahmad I²³. On the whole, 15.97% of all Sāmānid dirhams minted in Samarqand were struck during the reign of Ahmad ibn Isma'il II. This amir was the third-most prolific Sāmānid ruler in striking dirhams at this mint [Graph 2].
- 15 In 914-915 or the year after Naḡr II (914-943) took power, Samarqand saw a new height in mint output which was never surpassed by him or any later amirs. However, the very next year – 915-916 – the mint experienced an overall decline from the previous high rates of production (a fall by 200% from the 914-915 levels), but continued to produce dirhams at regular and relatively high levels until 924-925. Thereafter, the mint declined in productivity until the end of Naḡr II's reign. In just the first decade of his rule, 52.5% of all dirhams minted in Samarqand by this amir were struck. The remaining half of the dirhams minted under Naḡr II were issued during the course of the next twenty years of his office, many of which came from several peaks in output, such as the ones that occurred in 927-928, 932-933, 934-935 and 938-939. In all cases, these pinnacles in production were followed by sudden drops as if the previous year's production satisfied the immediate needs of the monetary market of Samarqand. Taken all together, Naḡr II minted 46.33% of all Sāmānid dirhams struck in Samarqand²⁴. Naḡr II was the most prolific amir in striking dirhams in Samarqand [Graph 2].
- 16 With the abdication of Naḡr II in 943 in favor of his son Nuḡ I (943-954), Samarqand witnessed its last intensive mint production period for the century. While there was a marked fall in output in 946-947/947-948 to levels not seen hitherto in the tenth century, the mint recovered by 948-949 and in 950-951 came to produce dirhams at almost the same high rate as for the year 938-939²⁵. Overall, the production of dirhams at the mint continued without interruption for the duration of Naḡr II's rule and issued 12.93% of all

dirhams minted in the city under the Sāmānids. This Sāmānid ruler was the fourth-most prolific amir in minting dirhams in Samarqand [Graph 2].

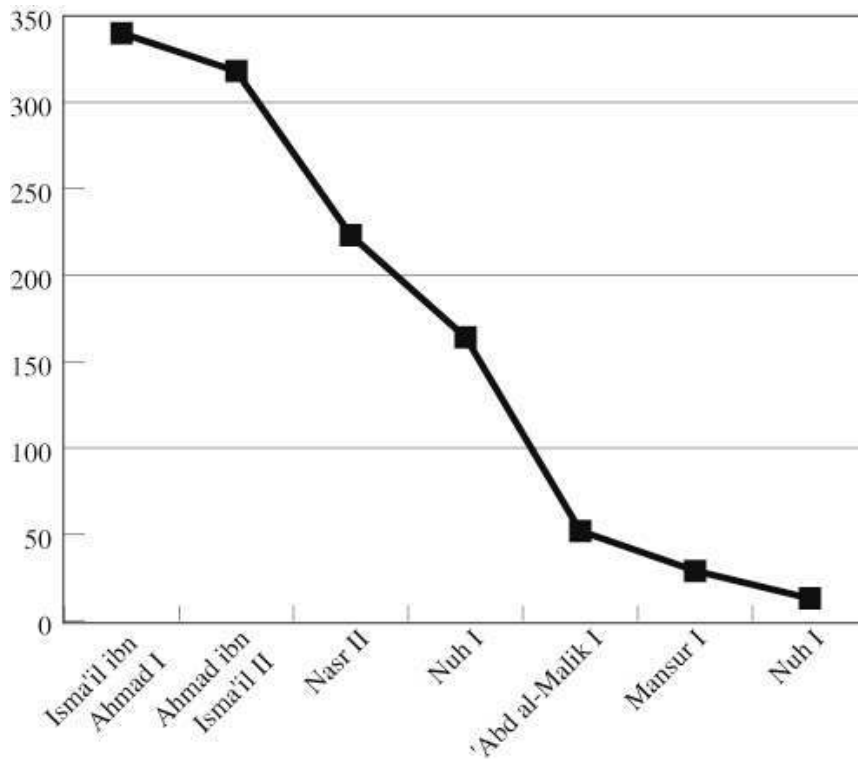
- 17 In 956-957, or two years after NUH I died and 'Abd al-Malik I (954-961) assumed power, Samarqand's mint output plummeted to levels not seen since the early years of the Sāmānids. This fall in production continued for the remaining years of his reign. During his rule, only 2.24% of all Samarqand dirhams struck under the Sāmānids were issued. The mint output under the next amir – Mansur I (961-976) – saw new lows such that had not been witnessed since the first year of Sāmānid mint output in 892-893. Under Mansur I, Samarqand produced only 3.15% of all dirhams struck at the mint by the Sāmānids.
- 18 Mint output under the next amir – NUH II (976-997) – fell again with the exception of the years 977-978 and 979-980 when there seems to have been a sudden and temporary outbursts of production not seen since the early 950s. However, the apparent rise in dirham production in 977-978 and 979-980 is deceiving since most of the surviving specimens for these two years come from a single and somewhat unusual hoard in its composition and late date of deposit (*tpq* 984-985). Discovered in Tatarskii Tolkish, Russia (former territories of Volga Bulghāria), it contained two Indian coins dated to 875 and 900 – exceptionally rare finds for northern Europe²⁶ – and thirty-three dirhams minted in Samarqand in 977-978 and seventy-nine in 979-980. In this way, the coins from this hoard constitute 61% of all Samarqand dirhams minted in 977-978 and 85% in 979-980 found throughout western Eurasia. If one were to exclude this unusual hoard and its dirhams, which abnormally inflate our sample, the mint output of Samarqand for the reign of NUH II shows no unusual changes in the pattern of production – one to twenty three dirhams maximum come from each year from the mid-970s to 989-990. In fact, on their removal from our database, the general pattern of mint production under this amir shows a constant and unprecedented decline: for the years 986-987/987-988 and 995-996 only one dirham per year occurs in our catalog while for 990-991 and 992-993/994-995 no dirhams at all are registered. Overall, during the reign of NUH II, only 1.96% of all Samarqand dirhams struck by the Sāmānids were minted, thereby making Samarqand least productive under his rule [Graph 2]. Finally, for the reigns of the last two Sāmānid amirs – Mansur II (997-999) and Ismā'il II al-MuntaSir (1000-1005) – no Samarqand dirhams are registered in our catalog.

Table 3. Mint output of Samarqand per year on average for each Samanid Amar
(Based on Total Number of Surviving Dirhams Discovered in Hoards)

<i>Sāmānid Amīrs</i>	<i>Years of Rule</i>	<i>Total Number of Dirhams</i>	<i>Average per Year</i>
Isma' il ibn Ahmad I (892-907)	15	2,377	158
Ahmad ibn Isma' il II (907-914)	7	2,228	318
Naṣr II (914-943)	29	6,464	223
Nuh I (943-954)	11	1,804	164
'Abd al-Malik I (954-961)	7	366	52
Maṣṣūr I (961-976)	15	440	29
Nuh II (976-997)	21	273	13

- 19 To better understand the intensity of Samarqand's mint production under Sāmānid rulers, it is important to put the chronology of output in perspective of each individual amir's length of office.

Graph 3. *Mint output of Samarqand per year on average for each Samanid amir*



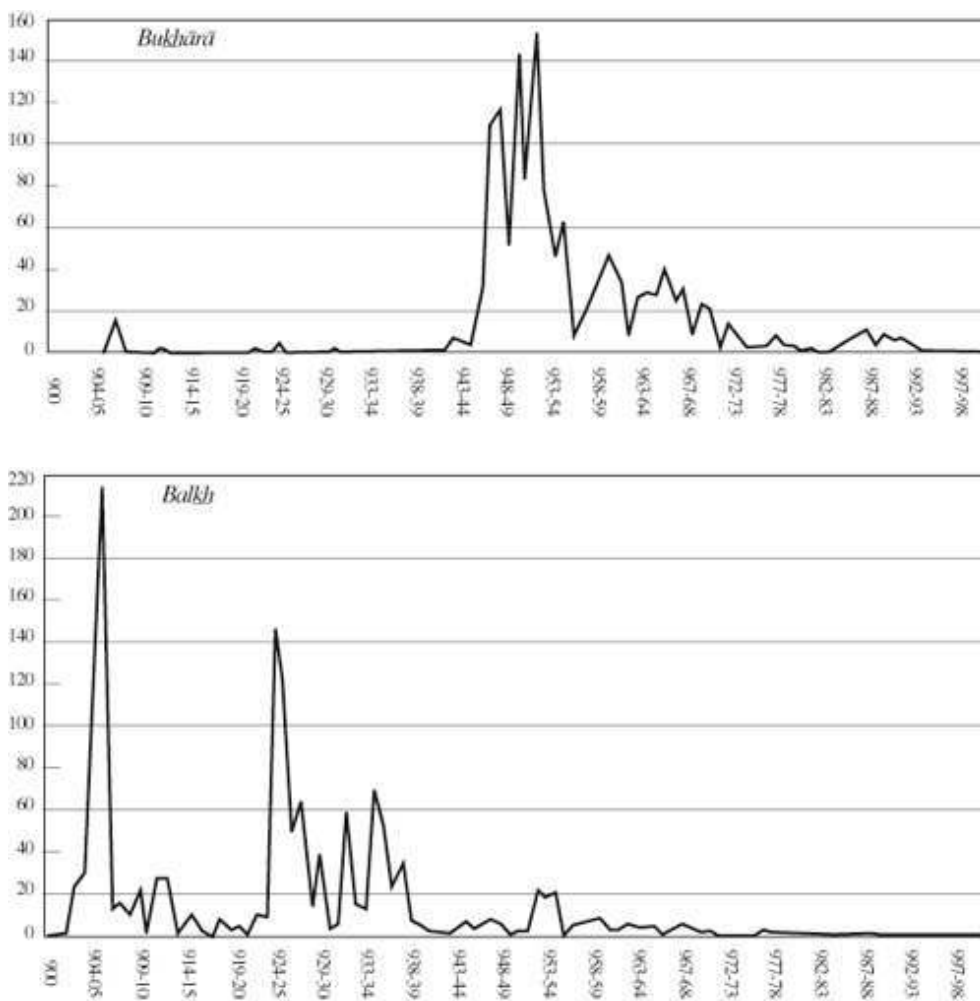
- 20 On examining Table 3 and Graph 3, it becomes evident that while Naṣr II issued almost half of all dirhams struck in Samarqand by the Sāmānids, during his long rule of 29 years, the intensity of his mint production ranks only second (223 per year on average) – following that of Ahmad ibn Isma'il II. During his reign of only seven years, Ahmad ibn Isma'il II produced almost 16% of all dirhams at 318 per year on average. Clearly, under the Sāmānids, the mint was most active from 907 to 914. However, it did continue to strike dirhams with relative intensity from 914 to 943. By the time Naṣr II left office in 943, 79.3% of all Sāmānid dirhams minted in Samarqand had been issued. His son, NUH I, ranks third in his mint production intensity – by the end of his eleven-year reign in 954,

another 12.93% of all dirhams had been struck by the mint at 164 per year on average. Finally, ranking fourth, during his fifteen-year rule from 892 to 907, Isma'īl ibn Ahmad I minted 17.04% of all Sāmānid dirhams struck in Samarqand at 158 per year on average. Thus, by 954, 92.26% of all dirhams minted in the city by the Sāmānids had been issued. Under the remaining three amirs who ruled from 954 to 997, the mint not only declined in output volume (only 7.74% of all Samarqand dirhams were struck during this period), but also in the intensity of dirham production (ranging from 12 to 52 dirhams per year on average). The decline in the volume and intensity in mint output was progressive during the second half of the tenth century.

3. Samarqand vs. Balkh and Bukhara

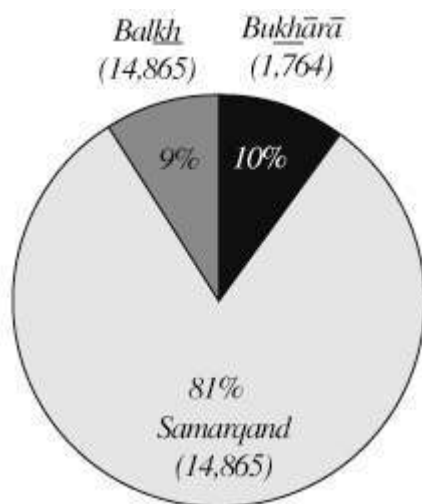
- 21 The continuous production of dirhams in Samarqand during most of the tenth century stands in stark contrast to the mints of Balkh and Bukhara which struck dirhams very erratically during the same period. Graph 4 makes it clear that Balkh produced the overwhelming majority of its dirhams between 902-03/912-13 and 924-925/937-938 while Bukhara experiences its heyday as a mint in 945-946/966-967. Very few, if any, dirhams were minted between these peaks at the two mints. In this way, chronologically, dirham productions at Balkh and Bukhara were diametrically opposed to each other.

Graph 4. The tenth-century dirham output of Bukhara, and Balkh by year
(Based on Dirhams with Exact Years)



- 22 In retrospect, when compared to Samarqand, Balkh's mint production seems to follow a somewhat similar pattern: both mints were particularly active during the first half of the tenth century. At the same time, while Balkh's mint notably declined and became very irregular after 937-938, Samarqand continued to issue dirhams at regular and even slightly increasing rates until 956-957. When compared to Samarqand, Bukhara's dirham output stands in nearly the same converse order as Balkh's. When Samarqand was experiencing its heyday as a mint in the first half of the tenth century, Bukhara produced hardly any coins. It was only in the mid-940s when Bukhara became an active mint and continued to issue dirhams in relatively large volumes until the late 960s. As noted above, Balkh's mint production plummeted by 937-938 and by the mid-950s Samarqand's mint output had dramatically declined. In light of these falls in production at the two mints, it can be tentatively suggested that the dramatic upsurge and continued (albeit diminishing) mint output in Bukhara beginning with the mid-940 through the late 960s was an attempt by the Samanid amirs to supplement the declining production of dirhams in Balkh and Samarqand. After the examination of dirham output of al-Shash and the twenty or so secondary Samanid mints, this suggestion can be better tested for accuracy.
- 23 Our database also shows that the volumes of dirham production in Balkh and Bukhara also greatly differ from that of Samarqand. In fact, the available data permits us to compare the relative quantity of Samarqand's mint output with these two contemporary mints. Thus, the surviving dirhams found in hoards from the mint of Balkh number 1,621 (from 304 hoards), from Bukhara 1,764 (from 281 hoards), and from Samarqand 14,865 (from 634 hoards). Graph 5 illustrates these figures and shows that Samarqand produced 81% of the dirhams struck at the three mints. Clearly, Samarqand was by far the more prolific mint of the three and would rank as a primary Samanid mint while the other two as secondary. Samarqand's high levels of dirham production, particularly during the first half of the tenth century, explains how cities like Bukhara could afford to mint very few, if any, dirhams until Samarqand ceased to issue these coins in large quantities from the mid-950s. Samarqand dirhams, like those of al-Shash, no doubt, were brought to the capital as taxes and tribute and served as the base of Bukhara's commercial currency which could be used for trade with northern Europe ²⁷.

Graph 5. *Relative Sāmānid dirham output of Bukhara, Balkh and Samarqand (Based on Total Number of Surviving Dirhams Discovered in Hoards)*



- 24 Although the three mints continued to issue dirhams after the mid-950s, none of them ever came close to striking these coins at the same high rates witnessed in the late ninth-first half of the tenth century. As was suggested in the study dedicated to the mint output of Bukhārā, the general decline in the production of dirhams by Sāmānid mints after the 950s-960s can be associated with the overall economic and political decay of the Sāmānid realm beginning with the fifth decade of the tenth century and lasting until its total disintegration in the closing years of the tenth century. The diminishing Sāmānid revenues due to the loss of their provinces (particularly in the south), agricultural collapse, and endemic rebellions caused a decline in the supply of silver for the striking of dirhams²⁸. Perhaps more importantly, the overwhelming majority of dirhams struck by the Sāmānids were systematically exported to northern Europe during the first half of the tenth century. By the sixth decade, the Sāmānids had simply drained their silver resources and came to face a silver crisis. This suggestion is supported by what is known about the silver contents of the later Sāmānid dirhams. In addition to producing fewer and fewer dirhams during the second half of the tenth century, from ca. 943 Sāmānid dirhams became debased as their silver content dropped²⁹. To explain this debasement, it has been suggested that the Sāmānids had difficulties in supplying the necessary silver for international trade, thereby adding base metals to the coins³⁰. Indeed, it has recently been determined that a major, progressive decline in Sāmānid trade with northern Europe began with the 940s and lasted for the remainder of the century. For example, in the decades of 940s-970s the volume of dirham trade diminished to 32% for the entire century and by the 980s-990s it only represented 5.4%. Just during the decade of the 980s, trade fell by 57.3% of what it had been in the 970s³¹. Overall, it appears that the collapse in dirham production witnessed in the second half of the tenth century in Samarqand and other Sāmānid mints, as well as the notable decline in Sāmānid commerce using dirhams during the same period, can be attributed to the general economic decline and the diminishing supply of silver available in the Sāmānid lands.

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- 25 In conclusion, this study examined 14,865 (13,952 of which were datable) Sāmānid dirhams struck in Samarqand from 634 hoards found throughout western Eurasia dating from the tenth to the eleventh centuries. The overwhelming majority of these hoards (94%) and dirhams (97%) come from northern Europe. Thus, it is clear that dirhams struck in Samarqand were destined for trade with this region and that the Sāmānid dirham was primarily an export coin.
- 26 The above data was analyzed using the hoard-count approach to determine the relative dirham output of Samarqand under the Sāmānids. An analysis of this data had shown that Samarqand was a primary Sāmānid mint that issued dirhams during most of late ninth and tenth centuries. Albeit, there were some notable peaks and falls in production levels that occurred during this period.
- 27 In view of the above, an overall pattern of mint production for the late ninth and first half of the tenth century becomes quite clear. During this period, the first amir initiated a steady and increasing volume of dirham production which was not only matched by the subsequent amir but also escalated in volume and production intensity during his reign. Under the third amir, Samarqand continued to issue dirhams in great numbers, but beginning with 924-925 the rate of issue per year declined and continued to fall for the remaining years of his rule. Further decline took place under the fourth amir. Despite the decreasing mint output of Samarqand after the second quarter of the tenth century, the mint produced dirhams regularly and in relatively large numbers until the mid-950s. The real collapse of Samarqand as a mint occurred in the second half of the tenth century, particularly in its last two decades when dirham output declined precipitously in volume output and production intensity. The three amirs who ruled from 954 to 997 minted only 7.74% of all Samarqand dirhams struck by Sāmānid rulers.
- 28 The beginnings of dirham output in Samarqand in the early 890s and the sharp increase in production intensity in the following two decades closely corresponds with the rise of commerce between northern Europe and Central Asia. As noted above, the earliest mention of trade between these two regions comes from the last decade of the ninth century and the export of Sāmānid dirhams to northern Europe began in ca. 900. Since Rus' merchants only accepted silver coins in exchange for their goods, the Sāmānids had to produce dirhams in large enough quantities to make commerce attractive to the northern merchants. By ca. 900, the mint of Samarqand had produced enough dirhams to begin trade with the Rus' in earnest. As exchange continued to develop and intensify in the next decade, the mint issued dirhams at ever increasing quantities which peaked by the mid-910s. It would be too premature at this time to speculate on how, if at all, the decline in the production of dirhams in Samarqand between the mid-920s and the mid-950s can be linked to the Sāmānid trade relations with the north. At the same time, what is clear is that the catastrophic drop in mint output that occurred in the second half of the tenth century can be attributed to the general decline in the Sāmānid economy that began with the fifth decade of the same century. Overall, the degree to which Sāmānid mints attempted to accommodate enough dirhams for the amirate's commerce with northern Europe during the tenth century is a topic that can be fully addressed only when the mint output of al-Shāsh – the other primary Sāmānid mint – has been studied. Such an inquiry will be carried out in the near future.

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NOTES

*. The numismatic data for this study derives from the monumental and comprehensive catalogue of Viking-age dirham hoards discovered throughout western Eurasia which Th. S. Noonan had been compiling for several decades prior to his premature passing in 2001. See Th. S. NOONAN, (in press). Although Thomas was unable to finish the catalog, most of it was compiled. In the near future, together with his friends in Stockholm, I will see to it that it is completed and published. It should be noted that a study such as this would not have been possible without this catalogue.

1. See, Th. S. NOONAN, 1998; 1989 ; 1992. Concerning the estimates of the volume of dirhams involved in this trade, see Th. S. NOONAN, 1990, p. 256.

2. While technically the Samanid dynasty ruled from 819-820 to 1005, they did not systematically mint coins under their own names until 892-893. For the purposes of this study, the Samanid era will thus refer to the period from 892-893 to 1005.

3. NOONAN, Th. S., 1992, p. 243; 1994, p. 227.

4. NOONAN, Th. S., 2000-2001, p. 206.

5. NOONAN, Th. S., 1992, p. 243; 1994, p. 227; 2000; KOVALEV, R. K., 2002 (in press).

6. Ibn al-Zubayr mentioned that Ismā'il ibn Ahmad (892-907) – the Samanid amir – sent sable (*sammur*) hats to the 'Abbasid caliph al-Mu'tamid in 893. Jāhiz (d. 870) noted the availability of various furs (northern imports) in the lands of Khwārazm. Furs, as is well known, were all northern imports, usually brought from Volga Bulgharia. Jāhiz's mention of the availability of furs in Khwārazm suggests that some sort of trade between

- the north and this part of Central Asia was already functioning by ca. 870. See R. K. KOVALEV, 2000-2001, pp. 26 and 27.
7. For accounts of this route and merchants, see IBN FAWLĀN, 1979 ; A. P. MARTINEZ, 1982, p. 158. Also see the account of al-Muqaddasi (al-Maqdisi) in W. BARTHOLD, 1958, p. 235 and P. B. GOLDEN, 1980, p. 108. For Jurjāniyah and its markets, see G. LE STRANGE, 1905, pp. 448, 458-459.
8. MAS'UDĪ, 1958, p. 149.
9. MARTINEZ, A. P., 1982, p. 158 ; IBN FAWLĀN, 1979, pp. 127-136. For the northern part of this route, see R. K. KOVALEV, 2000-2001, pp. 60-63.
10. MARTINEZ, A. P., 1982, p. 159.
11. NOONAN, Th. S. & KOVALEV, R. K., 2002; KOVALEV, R. K., 2001.
12. NOONAN, Th. S., 1994, Table 2, pp. 222 and 224.
13. NOONAN, Th. S. & KOVALEV, R. K., 2000; 2002.
14. KOVALEV, R. K., 2001.
15. NOONAN, Th. S., 1986. This study is also available in NOONAN, Th. S., 1998.
16. NOONAN, Th. S. & KOVALEV, R. K., 2000.
17. THORDEMAN, B., 1948.
18. For the location of Samarqand and its routes, see G. LE STRANGE, 1905, Maps IX-X. Also see W. BARTHOLD, 1958, pp. 83 et 88.
19. The one and so far the only ninth-century hoard with Sāmānid dirhams is the Lingsarve hoard discovered in 1892 in Näs parish, Gotland province, Sweden. It contained one dirham minted in Samarqand in 896-897. Based on this coin (the most recent one), the hoard is dated to 896-897.
20. Because the exact quantities of dirhams struck at various mints are not always reported, it is often difficult to discern their exact numbers. Sometimes, all that is reported is that "some" dirhams struck at such-and-such mint in such-and-such hoard were found. In such cases, I have taken the minimal number of one dirham from the mint and included it into the total. While such a conservative estimate may underestimate the total quantities of dirhams discovered, in view of the lack of precise data, little else can be done.
21. NOONAN, Th. S. & KOVALEV, R. K., 2002, pp. 166 ; KOVALEV, R. K., 2002, p. 250.
22. Three to four of the 101 dirhams minted in 902-903 were struck by the Sāmānid rebel Yahyā ibn Ahmād.
23. One of the 321 dirhams minted in 909-910 was struck by the Sāmānid rebel Yahyā ibn Ahmād and of the 257 dirhams minted in 913-914, 33 were struck by the Sāmānid rebel Ishāq ibn Ahmād.
24. During the reign of Nakr II, 7-8 dirhams were struck by the Sāmānid rebel Yahyā ibn Ahmād in 915-916 or 918-919 and 928-929.
25. Of the 60 dirhams minted in 946-947, 7 were struck by the Sāmānid rebel Ibrahim ibn Ahmād.
26. Both of the Indian coins from the Tatarskii Tolkish hoard were struck by the rulers of Ohind (Spalapati Deva and Samanta Deva). The only other dirham hoards found in northern Europe which contained medieval Indian coins come from Germany (1 coin – Spalapati Deva of Ohrid (887-916) – Niedelandin hoard: Kreis Uckermark, Brandenburg, 1900 – *tpq* ca. 996), the southeastern Baltic (2 coins – Samanta Deva of Ohind (887-916) – Erra Liiva hoard: Ida Virumaa, Estonia, 1939 – *tpq* 976), and Poland (quantity? – Shahi? – Obrzycko hoard – Szamotuly powiat, Poznan województwo, Wielkopolska region, 1842 –

tpq 978-983 and 1 coin – Shahis?, Kabul, ca. 900 – Lisówek hoard: Rzepin powiat, Zielona Góra (now Gorzów województwo), Wielkopolska region, 1894 – tpq ca. 1011). It should be noted that all of these hoards were deposited in the late tenth-early eleventh century, or the time when Sāmānid dirhams were becoming increasingly rare. The finds of Indian coins in northern Europe at this time suggests that Central Asian merchants were desperately seeking new sources of silver coins for their trade with the north.

27.KOVALEV, R. K., 2002, p. 263; DAVIDOVICH, E. A., 1966, pp. 112-113.

28.KOVALEV, R. K., 2002, p. 264.

29.DAVIDOVICH, E. A., 1966, pp. 115-118, 130-131. Also see Th. S. NOONAN, 1987-1991, pp. 228-229.

30.DAVIDOVICH, E. A., 1966, pp. 115-118, 130-131.

31.NOONAN, Th.S.,2000-2001, 215, 217.

ABSTRACTS

An examination of 14,865 Sāmānid dirhams struck in Samarqand from 634 hoards discovered in western Eurasia dating from the tenth to the eleventh centuries shows that these coins were destined mainly for trade with northern Europe. Samarqand was a primary Sāmānid mint that issued dirhams during most of late ninth and tenth centuries, but its most intense years of production occurred from the 910s to the mid-920s. By 954, 92.26% of all dirhams issued in Samarqand by the Sāmānids had been struck. The beginnings of dirham production in Samarqand in the early 890s and the sharp increase in production in the following two decades closely correspond with the rise of commerce between northern Europe and Central Asia which initiated in ca. 900. The catastrophic drop in mint output from the second half of the tenth century can be attributed to the general decline in the Sāmānid economy that began with the fifth decade of the same century.

La production de dirhams de l'atelier samanide de Samarkand et les débuts du commerce vers l'Europe du Nord (x^e siècle).

L'examen des 14 865 dirhams samanides des x^e et xi^e siècles frappés à Samarkand provenant de 634 trésors découverts en Eurasie occidentale montre que ces monnaies étaient principalement destinées au commerce avec l'Europe du Nord. Samarkand fut l'atelier principal émettant des dirhams pendant la majeure partie du ix^e et du x^e siècle, mais sa période d'activité la plus intense dura depuis les années 910 jusqu'au milieu des années 920. Ainsi, avant 954, 92,26% de l'ensemble des monnaies émises à Samarkand avaient-elles déjà été frappées. Les débuts de la production des dirhams à Samarkand au début des années 890 et la forte augmentation durant les deux décennies qui suivirent correspondent à la phase de croissance du commerce entre l'Europe du Nord et le Caucase qui débuta vers 900. La baisse catastrophique de la production monétaire à partir de la seconde moitié du xe siècle peut être attribuée au déclin général de l'économie samanide qui s'amorça dans les années 940.

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