



Symposium Article

Economy of Ragusa, 1300–1800: The Tiger of Medieval Mediterranean

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Using data for proxying economic activity, we confirm historical consensus that the medieval Republic of Ragusa (now Dubrovnik) was a prosperous small open economy, rivaling bigger competitors like Venice. More tentatively, we test a number of hypotheses on the determinants of success, finding partial evidence that Ragusa had strong fundamentals with prudent finances, effective rule of law, good governance, social fairness, business-friendly institutions, and trade openness. Ragusa may be an early example of a ‘Tiger’ economy with growth-promoting institutions. Future research should test the ‘resilience hypothesis’ that such economies are best able to deal with external shocks.

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There where your argosies with portly sail...

Do overpeer the petty traffickers ...

As they fly by them with their woven wings.¹

(Shakespeare, *The Merchant of Venice*)

¹ Webster’s Dictionary, NY, 2003 gives: ‘Argosy: A large merchant ship especially one with a rich cargo [1570–1580]; earlier Ragusy, Italian = Ragusea, a ship of Ragusa’.



INTRODUCTION AND MOTIVATION

While the Republic of Ragusa was one of the smallest medieval city states in the Mediterranean, it is widely considered by historians as one of the most successful, with volumes of shipping and trade, level of wealth, and architectural and cultural achievements disproportionate to its size. Innumerable authors over the centuries have attributed its success to effective governance based on a political regime of republicanism that may not have been democratic but relatively fair and benevolent, providing pioneering social provisions like education, health care, quarantine systems, and provision of grain reserves for times of shortage. To this was coupled a generally liberal, open economy, with prudent state finances, limited market intervention, and encouragement of private enterprise. The Croatian economic historian Vladimir Stipetic captures this well in a recent article (Stipetic, 2000, p. 24): ‘Dubrovnik traded like Hong Kong, Singapore, Taiwan ...but did so some five hundred years before. [and like these countries] became prosperous ..because of their adopted economic policy’.

One is tempted to think of Ragusa as the ‘Adriatic Tiger’ of yesteryear, an early example of a small open economy with strong fundamentals and outward orientation. The paper has three aims. First, it demonstrates that Ragusa was a very successful economy, using a quantitative² approach with a data set of economic variables or proxies we have compiled. Second, and more tentatively, we test *the strong fundamental hypothesis* that success was due to sensible policies, and thereby show that Ragusa was an early example of today’s ‘favorable institutions’ development model. Third, the paper demonstrates that the vast historical literature on Ragusa can be revisited using quantitative methods.

Two points tempt one to test further *the resilience hypothesis*: a small economy’s ability to mitigate external shocks. First are current discussions on how to minimize the impact of external crises,³ and second the fact that rich detail on commercial activities going back to the 13th century exists in Dubrovnik Archives – potentially allowing more detailed quantitative analysis. That medieval Europe experienced many economic crises, including financial ones not unlike the current global one, is very clear in the literature and is most recently reviewed in the popular work of Reinhart and Rogoff (2009).⁴ How Ragusa reacted to such shocks would add an important early

² For some, any use of data in historical analysis is a form of cliometrics (from Clio, the muse of history, and metrics meaning measuring). We do not have enough time series to run regressions, but do show the possibilities of working in the mode of the new economic history, exemplified by the work of North, Fogel, and Temin; Ravancic (2010) gives a succinct review.

³ Numerous recent work exists on this – an illustrative paper is Ghosh *et al.* (2009).

⁴ Postan and Rich (1952, p. 340) wrote of the 14th century: ‘It was not one world yet, but there



example of present-day relevance, but apart from a tentative interpretation of reactions to loss of eastern markets in the 16th century this will be left to future archival research.

The present paper relies on prior archival studies culling a large amount of economic data from secondary sources. While a lot of data are available in the literature, they are for infrequent intervals, of varying periodicity, and unsystematic in coverage or definition. Interpolation⁵ was done to create the time series shown below. Despite these qualifications, the data are consistent with the common view that Ragusa was a prosperous economy. To what extent was this due to its prudent and open policies is more conjecturally tested, as data are very partial, but complementary qualitative information abounds and also supports the ‘strong fundamentals hypothesis’. The rest of the paper is structured as follows. The next section reviews the historical literature on Ragusa and derives some key ‘hypotheses’ amenable to quantitative testing. The subsequent section proposes a phasing of the main economic periods different from historical–political ones, and for each undertakes quantitative tests of hypotheses on what happened. The penultimate section analyzes the main determinants of this success: that is, why it happened. The final section summarizes the main findings and points to future research directions.

Three clarifications are in order. First, we generally use the Latin name Ragusa, as Dubrovnik was then known. Second, we do not claim Ragusa was the only example of a prosperous city state with sensible policies; indeed we accept the view of some scholars that a lot of Ragusa’s wise policy was an emulation of – with perhaps improvement upon – those of its main rival and overlord Venice. Third, while the analysis here is based on numerous sources, references are limited to the key sources.

THE HISTORICAL LITERATURE ON RAGUSA’S ECONOMY

The voluminous literature on Ragusa is almost entirely the work of historians and generally contains little statistics; most interpretations are based on written evidence in archival works or by contemporaneous writers. When data are shown, they are fragmentary, illustrative, lack long-term continuity,

was a sensitive world market and it reacted quickly to crises in distant countries’. Cipolla (1987) describes for Florence the 14th century ‘excess’ credit boom followed by a policy-induced credit squeeze – very like modern boom–bust cycles.

⁵ We have collected all of the available data points from the references and then used linear interpolation to obtain new data points, with about one observation every 25 years. At times we had to interpolate only between the neighboring 50 years, and at times we had to interpolate for a broader data range. Details are in the Appendix tables to Havrylyshyn and Srzentic (2012).



and are rarely in tables or charts. We have culled statistics from the literature, systematized them as much as possible, and used them to analyze this important historical case. Several recent works by Croatian scholars do use a quantitative approach, with careful data collection, sorting out unreliable estimates, and presenting the most solid ones to complement qualitative analysis. The earliest is the time-series population estimate in the study by Vekarić (1998), followed by a partial but careful and very useful estimate of GDP in Croatia between 1500 and 1900 by Stipetić (2004) and then Zlatar's (2007) analysis of private credits in the 16th–17th century.⁶ Our new data set allows us to add to this research with some longer-term analysis of Ragusa's evolution.

Timeline of Ragusa's political–historical evolution

The first 'records [of] Dubrovnik's arsenals (shipyards) date from the year 782' (Nietić, 2002, p. 11), a factoid broadly consistent with the consensus that Ragusa was founded as a significant settlement by the 7th century, allegedly by Greek–Italian denizens fleeing from the 639 Avar invasions of Epidaurus (Cavtat). As for all early history, there is a mixture of myth and fact, as argued *inter alia* by Carter (1972) and Stuard (1992). That from the 11th century Ragusa emerged as a maritime and mercantile city is a view widely shared by contemporary and modern writers. In 1153, Andalusian geographer Idrisi wrote: 'Ragusa was a large maritime town whose population were hard-working craftsmen and possessed a large fleet which traveled to different parts' (Carter, 1972, p. 74). In 1553 Giustiniani noted that its nobles had fortunes far in excess of other Dalmatian cities, and comparable to those of the Venetian elite, with 'many individuals having [wealth] of 100,000 ducats and more'.⁷ Stuard (1981, p. 808) notes that, while Shakespeare's term *Argosy* only alludes to Ragusa, other English writers of the time explicitly recognized its greatness, as did Pepys in *Diary*: 1660–1669: 'a small country, but it is said older than Venice'.⁸ The renowned 20th century economic historian of capitalist development, Fernand Braudel, labeled Ragusa 'the Jewel of the Adriatic'.

Many observers emphasize its 'uniqueness' as an independent republic with a relatively large number of democratic procedures.⁹ This is arguable,

⁶ A fourth is the much narrower but extremely novel socioeconomic exercise by Ravancic (2010) using archival data on court cases related to tavern disputes and finding that they are highest on weekends and during off-season! The study by Lonza (2002) contains many data on criminal court procedures, of potential value in future research on the quality of legal institutions, analogous to indicators in the World Bank's *Doing Business* reports.

⁷ Krekić (1997, p. 193): Well-paid sailors could earn a few hundred ducats yearly, captains 3 to 4 times as much.

⁸ Reference given by Basic (2006, p. 152).

⁹ Havrylyshyn and Srzentic (2012) discuss these claims.



although *de facto* it was certainly quite autonomous in its internal governance and external commerce, justifying its motto *LIBERTAS*.¹⁰ But *de jure* it was usually in a suzerainty, tributary, or protectorate status under one or another of the larger powers. Historians vary in designating historical phases, but a broad consensus allows us to propose the following periodicity:

- *The Byzantine period to 1204* saw Ragusa mostly under Constantinople's suzerainty, with many short periods of forced or voluntary submission to Venice, Hungarian kings, Normans in Naples, and even some years of independence. But distance allowed considerable autonomy with the help of strong fortifications, and diplomatic efforts to play off one power against another, and enough neutrality to achieve trading rights with all sides.
- *The Venetian period, 1204 to 1358* required Ragusa to accept formal submission to Venice, a Republic at least 10 times larger, and with a far more powerful naval fleet. It had to accept Venetian Counts as formal heads of state, pay tribute, contribute one vessel per 30 Venetian ones in wartime. Nevertheless, a great deal of autonomy was practiced particularly in trading, including the valuable privilege of intermediation between the Balkans and Venice. But even during this period – and certainly afterwards – Ragusa was a significant rival of Venice in Mediterranean trade.
- *Hungarian suzerainty, 1358–1526 allowed Ragusa even greater autonomy.* In the middle of the 14th century, the Kingdom of Hungary and Croatia under Ludovik began to strengthen regional power, and undertook to drive the Venetians from Dalmatia; succeeding in its conquest with the 1358 Treaty of Zadar, Hungary conjured most of the coast including Ragusa under *de jure* dependency. But the Hungarian kings were content with inland superiority over Venice and not interested in Mediterranean trade. Thus all trade was freely allowed for Ragusa with little interference.
- *The Ottoman period (1526–1684)* brought a new protectorate status under The Porte after the Hungarian defeat at Mohacs. Importantly, under the loose control of Hungary, formal relations with the Ottomans began much earlier. The first treaty was in 1392, with expansion of its terms in 1397 to fully free-trade in Ottoman regions, with yet another treaty in 1459 after the Turkish occupation of Serbia. The well-remembered defeat of Serb forces at Kosovo Polje in 1389, and Ottoman's crowning achievement with the fall of Constantinople in 1453, clearly signaled the need of Ragusa to deal directly with the Porte.
- *The Austrian period (1684–1806)* was a faint echo of the earlier tributary periods, with continued governing autonomy, particularly for Balkan trade with the Ottomans. However, diplomacy was decreasingly effective as

¹⁰ Kunccevic (2010) elaborates on the reality and myth of *LIBERTAS*.



Ragusa's economic strength had been sapped by the overall economic decline of the eastern Mediterranean. Some interpretations suggest that Austrians did not seek firmer authority over Ragusa (now mostly called Dubrovnik) partly because its relative commercial importance was much reduced.¹¹

- *French occupation in 1806 ends the independence of Dubrovnik*, not just *de facto*, but *de jure*. During the Austrian–French wars, facing overwhelming French forces and unable to use its earlier diplomatic efforts to retain neutrality, it surrendered and became a mere city in the Illyrian province. With Napoleon's defeat, the 1815 Congress of Vienna returned Austrian control over Dalmatia, but not Dubrovnik's city-state privileges.¹² By 1900, railroads had further undermined Dubrovnik's advantages. It became part of the South-Slav Kingdom in 1918 as a much reduced maritime power, although increasingly an important tourist destination, and was designated a UNESCO World Heritage site in 1979.

Common hypotheses on Ragusean economic prosperity

The historical literature is virtually unanimous with respect to the fact that Ragusa was extremely prosperous despite its very small size and poor resource base. Authors vary somewhat on the question of the when, how, and why of this success, but enough consensus exists to allow us to derive some economic hypotheses (HH), subject to quantitative testing. The first five are related to economic evolution – or what happened – and the other four to explaining prosperity – or why it happened.

- HH1: *The Golden Years of prosperity were from 1350 to 1550.*
- HH2: *The preceding Silver Period was economically very dynamic as well.*¹³
- HH3: *The sustainable population level was very limited – well under 100,000.*
- HH4: *The commercial fleet of Ragusa at its peak equaled that of Venice and exceeded that of England.*
- HH5: *Ragusa's decline began with the discovery of The Cape of Good Hope route in the early 16th century.*
- HH6: *State laws, regulations, and institutions were favorable to commercial activity.*

¹¹ 'Relative' is the operative word here: in the second section we show data suggesting that absolute level of economic activity might have been still very large.

¹² This lends truth to the assertion by Luetic (1969, p. 107): 'the French occupation...overthrew the 1,000 year historical thread of Dubrovnik's sea-based livelihood, and destroyed the significance of Dubrovnik as a world-class maritime power'.

¹³ In fact most historians do not give special importance to this period, with the possible exception of Stuard (1975, 1992); we take the liberty to make it a more explicit hypothesis than she does in her many works on this period.



- HH7: *The State conducted very prudent and conservative financial policies and avoided budget deficits, debts, and inflationary debasement.*
- HH8: *Enlightened social policies provided for basic needs of the entire populace.*
- HH9: *Ragusa had very low military–naval expenditures, relying on diplomacy for its achievements.*

TESTING HYPOTHESES ON EVOLUTION OF THE ECONOMY

Virtually the entire history of Ragusa is structured on historical–political models, with period classifications dependent on key events: wars, victories, treaties, and regime changes. Given this paper’s focus on economic evolution, we propose a classification based on the nature of the economic development shown in Table 1 with approximate dates.¹⁴ For all but the last of these periods we test the above hypotheses using quantitative indicators as available, and complementing the analysis with other fragmentary statistics or qualitative assessments from the literature.

However, as a broad overview, let us first consider an indicator that may differentiate the relative economic dynamism of each period. A chart in Carter (1972) listing the major monumental buildings in the city from the 9th century to 1877 is used to create Figure 1, showing for each period the absolute numbers, the share of the total, and a crude index of building intensity (the number of buildings per 100 years).¹⁵

Taking this at face value the data are consistent with HH1 – that the Golden Years 1350–1575 were indeed the most prosperous, with the largest number of buildings, the highest share by period, and the highest per century intensity. The foundational period shows a start, but is still very modest. However, perhaps most interesting in this chart is how large a share of the major structures was put in place in the Silver period, with an intensity of building far greater than that of the late periods and second only to the Golden Years.

Most of the history of ‘The Adriatic Jewel’ justifiably focuses on the late 14th to late 16th century as the period of greatest prosperity. We propose that this new thesis be added as HH2 – the preceding Silver Period was economically also very dynamic. Some data we present are consistent with

¹⁴ The rationale is explained in Havrylyshyn and Srzentic (2012).

¹⁵ This may underestimate the number in later periods as it shows only buildings within the city walls, and territorial expansion over time likely meant more major building projects outside as well.



Table 1: Classification of economic periods

Economic period	Year	Nature of economic activity
Foundational period	To 1100	Agriculture, fishing, short-distance maritime trade
Silver period	1100–1350	Above, and hinterland trade especially Balkan silver and other minerals, including Adriatic entrepot trade
Golden years	1350–1575	Above, and increasing long-distance maritime trade- mostly to Levant
Cape Hope, gradual decline	1575–1750	Levant trade gradually lost to Western European competitors, efforts to trade in West Mediterranean and Atlantic
Revival interlude	1750–1806	Balkan trade continues, hire-out ships and sailors to new big powers
Post-independence	1806–1900	Decline sharpens, maritime activity is undermined by railroads; late-19 th c. beginning of tourism-economy

Source: Authors' classification

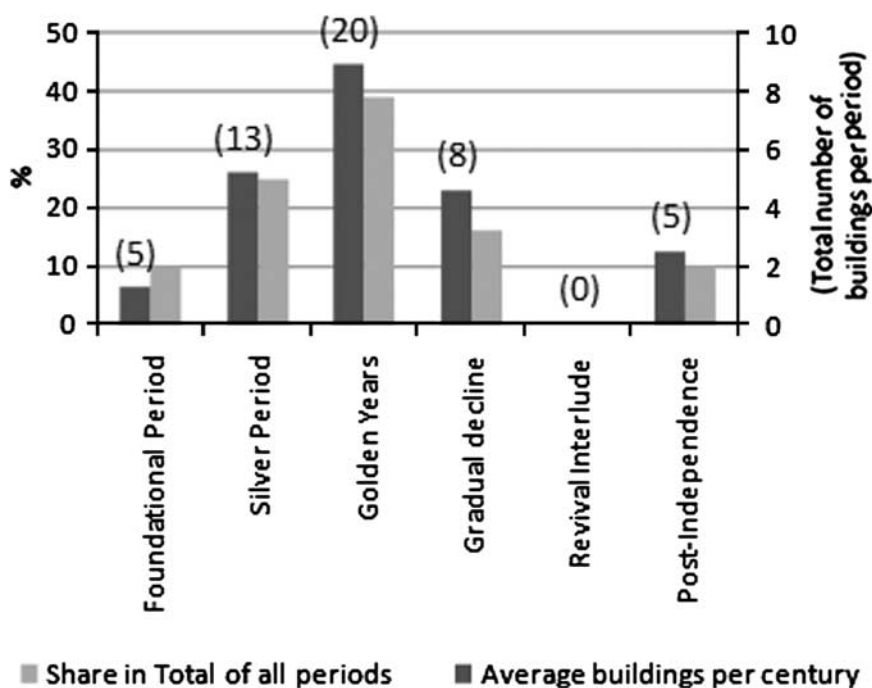


Figure 1: Principal buildings in Dubrovnik between the 9th and 19th century



this, suggesting that the prosperity of the Golden Years came on top of a very strong buildup in the Silver period.¹⁶ The data in Figure 1 reflect the subsequent decline in the 17th and 18th century, with far fewer number of buildings and smaller share and intensity. There were none in the brief revival, and only a few more in the post-independence period. We turn now to some elaboration of the individual periods.

Foundation period – until 1100

There is broad consensus that in its early years the economy was very simple, largely self-sufficient, and based on fishing, some agriculture, and building of small crafts. This was nevertheless an important period in building the foundations of future prosperity and dominance in Dalmatia. One sees a gradual movement into nearby coastal entrepot trade, as well as intermediation between the Balkan hinterland and thriving Italian cities like Venice, Florence, Bari, and Ancona. With the first shipyard ready in 782 – within a century of its founding – Ragusa was already moving beyond local fishing into maritime activities. Early documentary mention of its shipping prowess notes that, in 783, Charlemagne hired Ragusean ships to transport Croatian and Serbian mercenaries across the Adriatic in his campaign to drive Saracens out of Apulia.¹⁷

Another indicator of an early economic development was its ability to withstand the 866 Saracen siege for 15 months until Byzantine ships lifted it – indirect but strong evidence that (1) Ragusa was worth seizing and (2) that defenses were already quite strong.

Numerous accounts describe the caravan trade between the Balkans and Italy through Ragusa well before 1100. Resources like cattle, leather, wood/lumber, honey, and wax came from the Balkans, to be traded for textiles, household goods, metal products, and various luxuries from Italy. The share of this Balkan–European trade in Ragusean economy varied in importance over time as the products changed and other entrepot trade with Levant and elsewhere became at times far more important. However, throughout Ragusean history, the Balkan trade remained a significant component of its income.

¹⁶ Several works of Stuard imply such a thesis – we suggest it be made explicit in the literature. Those who have studied the Industrial Revolution will recall the later partial revision of economic history showing that it was preceded and made possible by an earlier agricultural revolution and attendant growth.

¹⁷ The work by Carter (1972, p. 53) is based on the writing of the Byzantine Porphyrogenitos – although Carter warns in many places that such early writings are uncertain.



The ‘Silver’ period (1100–1350)

The 13th century saw a boom in mineral trade as mines opened and expanded in the hinterlands (Srebrenica, Novo Brdo, and Rudnik). The main item was silver, but other minerals (gold, lead, iron, etc) also played a role,¹⁸ as did salt exports. Stuard (1975–1976, 1981, 1992) describes how Ragusa quickly became a principal intermediary for the silver export to Europe; Stipetic (2000, p. 26) states that Balkan silver production *circa* 1400 provided almost one-third of the European total, and of this almost one-half (ie about 16% of the European total) was exported through Ragusa. He also contends that required sales to the Ragusa mint provided the basis for a considerable amount of seigniorage profits for the state treasury. The silver was brought by caravans and then shipped to Italian city states, Florence, Venice, Genoa, etc. The return voyages would bring textiles, luxury clothing for Balkan nobles, jewelry, glass, and other items of manufacture. This is most comprehensively analyzed by Stuard (1975–1976). It is significant that the earlier Balkan trade in raw materials continued, although silver and other minerals proved much more profitable, providing a big boost to the Ragusa economy, including the local development of silver and goldsmithing.

The hypothesis we propose based on Stuard (HH2) – that the Silver Period was economically very dynamic – is confirmed by Figure 1 and to some extent by the large increase in area, shipping, and probably population as well (Figures 2 and 4).

This period also saw awareness by the Ragusean elites and authorities that greater benefit would come from Balkan–Italian trade with ships than with land caravans. Thus, one sees almost a doubling of the commercial fleet (Figure 4), from about 22 long-distance ships in 1300 to 40 by 1325. The accuracy of these figures is less certain than those for later periods (hence a dashed line in Figure 4), and no reliable estimates are available for earlier years, but the trend and dynamism seems clear.

The ‘Golden years’ of maritime prosperity (1350–1575)

This period is almost universally recognized by scholars as the apogee of Ragusean economic prosperity. The Republic’s population reached its maximum of about 90,000 in 1500 (Figure 2), as did per capita GDP (Figure 3), although we raise some doubts about this later. The fleet size grew sharply (Figure 4), from the 40 noted in 1325 to 200 by 1575, and tonnage even more substantially (Figure 5), with a sharp increase in the

¹⁸ Often the location names define the mineral: for example, Srebrenica for silver, Olovo for lead, but Rudnik simply means mine.

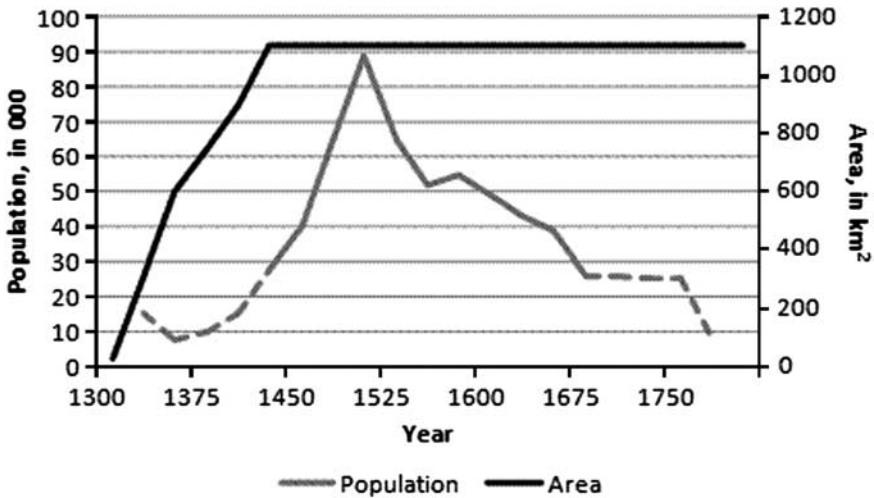


Figure 2: Population and area: Ragusa 1300–1800

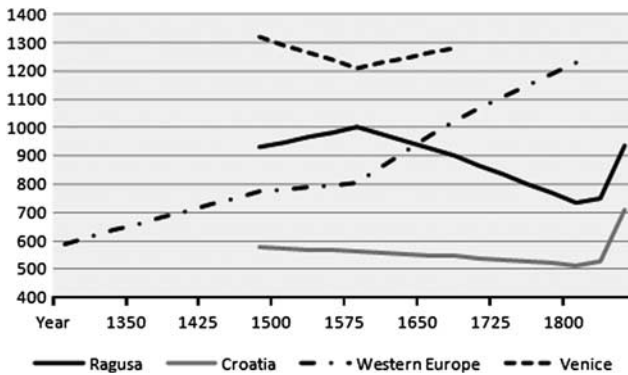


Figure 3: GDP per capita Ragusa and comparators (in 1990 USD)

average ship size.¹⁹ All these support HH1 – that the golden years of maritime prosperity came between *circa* 1350 and 1550/1575. We use 1575 as the end date based on the peak value of shipping tonnage.

With regard to population, Vekaric (1998) argues that much of the expansion prior to 1500 was due to Balkan-Slavic refugees fleeing the

¹⁹ Luetic (1969), and Nicetic (2002) all emphasize the constant expansion of capacity over this period.

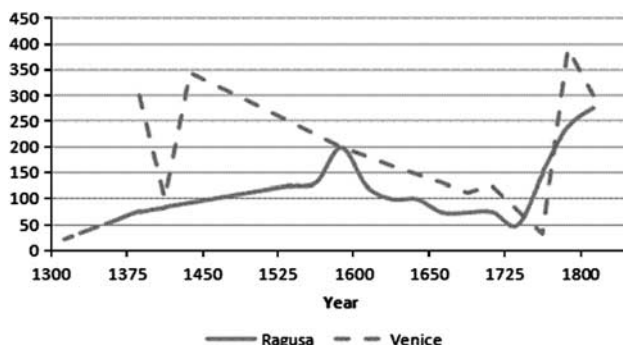


Figure 4: Number of ships: Ragusa and Venice 1300–1800

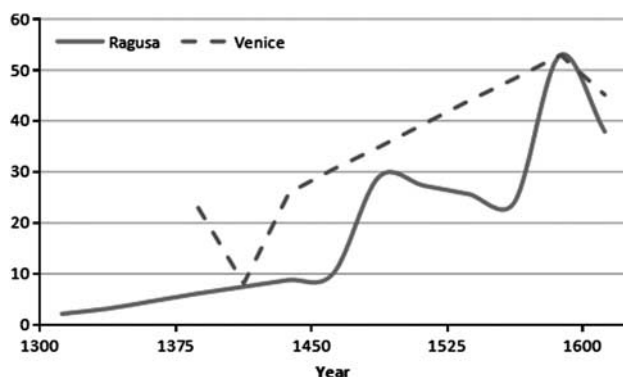


Figure 5: Ship capacity (in 000 tons): Ragusa and Venice 1300–1600

advance of the Ottomans. However, economic attraction also played a role: there is little doubt that the level of per capita income in Ragusa was well above that of the immediate Croatian hinterland (Figure 3). A more intriguing hypothesis stated in Vekaric (1998) concerns the strong decline in population after 1500 notwithstanding the strong growth in shipping activity. He attributes some of this to renewed episodes of the plague, as well as to the ‘correction’ of the earlier refugee boom, arguing that the peak population was unsustainable because the Republic was very small and the land rather infertile. Hence, we tentatively confirm HH3 that the carrying capacity for the population was very limited, well under 100,000.

The new, additional basis for prosperity in this period now becomes maritime trade, not only throughout the Adriatic but increasingly with the Levant territories under Ottoman rule, providing goods from the Far East, such as spices, silk, oriental perfumes, grains, and other raw materials.



However, with the Balkans the commodity structure of trade continued to be quite similar to that in earlier periods, and there is little doubt that the strong preceding experience and the extensive slavization of Ragusa/Dubrovnik provided a critical comparative advantage. It is a tribute to the governing elites of Ragusa, both the nobility and the merchants, that they used this comparative advantage to provide capital, skills, and experience leading to even more maritime trade in the 15th and 16th century. Thus, the economy in this period was based largely on entrepot trade services, including shipping profits and value of the direct and indirect labor services. One also begins to see Ragusean sailors and officers hiring out to foreign powers, although this becomes much more important in the decline period. Thus, Lane (1973, p. 425) notes that as Venetian dominance declines in the 18th century ‘shipmasters were no longer Venetian ... [but] mostly Dalmatians with Slavic names’.

That domestic production probably accounted for a quite small portion of the added value cannot be verified quantitatively – even for England and Western Europe, GDP estimates only go back to the late 18th century – but the qualitative analysis makes clear that this was so. Agriculture produced very small amounts of grains (at best one-third of needs according to Carter and others), some wine, olive oil and market garden products, and salt exports. Manufacturing was limited to shipbuilding, gold, and silversmithing,²⁰ with jewelry exports to the Balkans increasingly coming from domestic production, not only imports from Italy. Shipbuilding had always been largely local (recall that the first arsenal dates to 792), but during this period it became very significant and includes sales outside Ragusa, based on the reputation of high quality.²¹

This was the period during which Ragusa became, as a prominent American historian of Venice Lane (1973, p. 379, p. 381) notes, ‘Venice’s most damaging competitor...bidding cargoes away from the Venetians on all seas, even in the Adriatic...[as] their ships were increasing in number and size’.²² Other accolades include claims of Ragusean equality with Venice, based on fleet size and tonnage *circa* 1575 (Figures 4 and 5). As Figure 6 shows, at this time the English fleet was still only about the same size.²³

The patriotic implication of HH4 – that Ragusa was on par with Venice – is perhaps exaggerated, for over these centuries equivalence occurred only

²⁰ Efforts to subsidize textiles eventually failed, as elaborated in Havrylyshyn and Srzentic (2012).

²¹ Havrylyshyn and Srzentic (2012) cite numerous such references.

²² This is also reflected in the work of Fernand Braudel who writes of Ragusa’s ability to ‘snatch away goods from under the eyes of Venetian merchants’ as cited in Stuard (1992).

²³ Some historians claim that, before the mid-16th century, Ragusa’s fleet exceeded that of England; we were unable to find hard evidence before 1575.

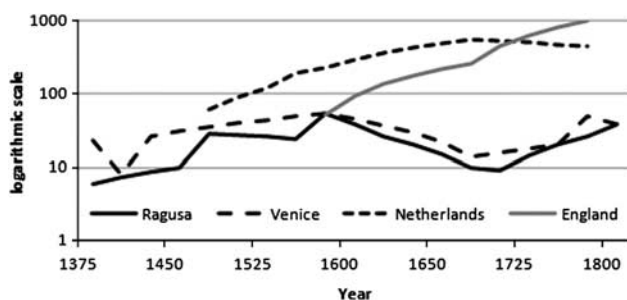


Figure 6: Ship capacity (in 000 tons): Ragusa, Venice, the Netherlands, and England (1375–1800)

when Venice had lost numerous ships during wars. It is clear from the figures that the Venetian fleet had far larger numbers of ships in the 14th century, which fell sharply with the many wars with Genoa. Both in defeat and victory, many ships were destroyed; the fleet was then rebuilt to even higher numbers *circa* 1425 (over 300 ships), which once again declined as many wars – now with the Ottomans – again decimated the fleet. Ragusa’s neutrality and Ottoman privileges spared its fleet, so that at its peak in 1575, with about 200 ships and peak historical capacity of 33,000 tons, it was technically ‘equal’ to Venice, as was also true *circa* 1400.

Of course, the fact that over the long term Ragusa did not quite ‘equal’ Venice should not be a surprise, nor should it be considered a negative commentary, given its much smaller size and poor agricultural fertility. The fact that Ragusa ‘La Città Felice’ could be put in the same league as ‘La Serenissima’ is already a strongly positive characterization.²⁴

Vasco da Gama rounds the Cape of Good Hope; Ragusa (gradually) declines (1575–1750)

Most historians attribute the eventual decline of Ragusa’s importance to the shift of economic dynamism to Western Europe, and the related opening of the Cape of Good Hope eastern route. The decline is reflected in the values for population (Figure 2), GDP per capita (Figure 3), number and tonnage of ships (Figures 4 and 5), and GDP (Figure 7). The Italian city states also declined; for Venice, Lane (1973, pp. 384–386) refers to the ‘The Collapse’. However, our data suggest that Ragusa’s decline was not immediate. After

²⁴ Arguably, the lack of a large and fertile hinterland should not matter, as resources can be imported. But in a medieval period, with many episodes of famine, states often forbade food exports; with long travel times, size mattered. Larger size also provided a labor force: sailors, soldiers, chandlers. Venice was in this sense far better endowed than Dubrovnik.

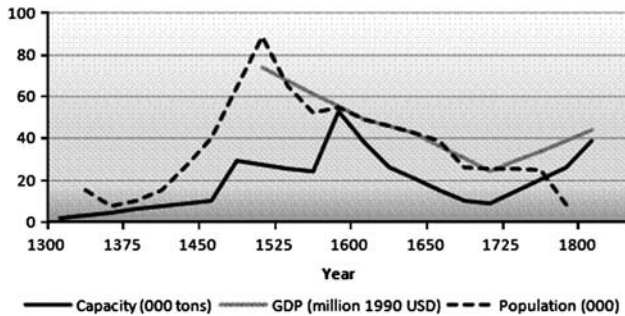


Figure 7: Comparison of GDP and a GDP proxy (ship capacity): Ragusa 1300–1800

Vasco da Gama established a colony in India in 1503 and the first spices were brought to Europe by Portuguese ships in 1506, the Ragusean shipping capacity continued to expand until 1575.

The enormous growth of the naval powers of Western European (Portugal, Spain, the Netherlands, and England) is particularly clear in Figure 6. While in 1575 England's fleet tonnage was about the same as in Venice and Ragusa, and that of the Netherlands was 'merely' 3–4 times larger, after 1600 both of these countries moved into exponential growth, with both Adriatic cities falling far behind. This created an eventually unbeatable competitive force for Ragusa unlike the earlier rivalry with Venice, which it was able to outcompete because of advantages in Slavic lands and skillful diplomacy with the Porte and the Pope.

The new competition was unbeatable for two reasons. Western European markets for which Balkan resources were insignificant soon surpassed those of Italy. Ragusean authorities and merchants undertook efforts to move into these markets, with some success for a few decades but not enough to prevent an eventual decline. Second, even with the privileges granted by the Ottomans for eastern trade *via* the Levant, this became far too costly compared with the new sea route around the Cape. Again, Raguseans made efforts to compensate, by providing shipping services to western powers (ships were re-based, at first mostly to Spain), and perhaps most importantly individuals hired themselves out to the new western fleets – maybe the first significant episode of Dalmatian's famous quest of 'trbuhom za kruhom' (loosely translated as following your stomach in a quest for bread). In addition, some attempts were made to engage in trans-Atlantic trade, but again with limited success.²⁵ All this helped mitigate the decline, but in the

²⁵ Several articles in Filipovic and Partridge (1977) discuss this, including Luetic, Filipovic, and Zivojinovic.



Table 2: Correlation matrix: GDP, ship capacity and population

	GDP (in million 1990 USD)	Tonnage of Ragusean ships	Population (in 000)
GDP (in million 1990 USD)	1	0.53	0.88
Tonnage of Ragusean ships		1	0.64
Population (in 000)			1

Source: The correlation analysis has been done using values in Figure 5 with interpolation

end was not enough to keep the glory days alive. Thus, available data confirm HH5 – that the rounding of the Cape of Good Hope did not immediately lead to Ragusa’s decline, although with a long lag it was the key factor. One could argue further that the diversification efforts succeeded in delaying the decline, resulting in continued growth almost a century after Vasco de Gama, which in a limited way is consistent with the resilience hypothesis.

Note that the above is largely based on shipping tonnage data (Figure 5), which is perhaps the best available proxy for economic activity as Figure 7 and the correlations in Table 2 suggest. One indeed sees a slight decline from 1475 (29 tons) to 1550 (24 tons), but a strong rebound to its peak value in 1575 (53 tons), after which it declines quickly. Note that the same trend is seen for Venice, which also suffered from these two new competitive factors. Carter (1972, pp. 352–353) summarizes earlier arguments of Libyer and Lane for Venice and those of Marinkovic for Ragusa: ‘trade of Dubrovnik and Venice was not halted at the Levantine ports...but was carried by merchants of these Republics as far as Goa and possibly even Malaca and Batavia at a period when Portugal was supposed to have a “monopoly” of the spice trade’. Thus, the efforts by Raguseans (and Venetians) – for example, establishing a trading colony in Goa, and diplomatic efforts with the Ottomans to maintain the sole rights of spice trade in Alexandria – succeeded for some time.

The short revival period (1750–1806)

After the decline from 1575 to 1750, a short revival occurred, not in population but in the size of the fleet (Figure 4), although the average capacity probably fell.²⁶ This revival does not seem to have been given much attention by historians, either because it is not clearly understood or because by this time the uniqueness of Ragusa/Dubrovnik had long passed and academic interest in the later periods was not as great.

The strong correlation between aggregate GDP, tonnage, and population points to two puzzles for future research. First, as tonnage continued to rise

²⁶ Luetic (1969) and other fleet estimates generally agree on this.



until 1575, indicating economic expansion, why did population fall? Second, if population declined from 1500 already with continued expansion, why did GDP per capita fall?²⁷

EXPLAINING RAGUSA'S PROSPERITY AND DECLINE

This section will systematize and assess the many explanations in the literature for Ragusa's success. Our central thesis is that, while its locational advantage played some role, Ragusa leveraged this role with wise policies – strong fundamentals – to achieve greater prosperity compared with other cities also located on the Dalmatian coast. Based on the literature, we propose that four main policy areas be analyzed: good governance including rule-of-law; prudent financial policies and commerce-friendly institutions; an enlightened social policy addressing basic needs of the entire populace; and finally minimal reliance on defense expenditures with maximal diplomacy.

However, location must not be ignored. Some historians argue that being on the margin between Christian and Muslim worlds was the key factor allowing trade intermediation. Most accept that location was a factor, but gave more emphasis to the above explanations. This seems reasonable given that many Dalmatian cities like Kotor, Ulcinj to the south, Split, and Zadar to the north, although having similar location, probably larger and more fertile hinterland resources, larger harbors, and also acting as trade intermediators, apparently did not approach the prosperity and reputation of Ragusa. It is more useful to ask how Ragusa leveraged its location to greater success.

We now go on to assess the four policy explanations, with a qualification. Information on policy and institutions is very sparse, with the exception of budget data for *circa* 1800. Therefore, the conclusions in this section are far more conjectural than those of the previous section. Nevertheless, we view this preliminary effort as a useful first step that points to future research.

Good governance

If the World Bank's Governance and Doing Business surveys were being carried out in the middle ages, Ragusa might score quite high in the rankings. From today's perspective it provides an early example of good institutions promoting development. Krekić (1980, p. 38) captures this: '[Dubrovnik was] vulnerable [to] Ottoman occupation ... This is why the government felt the urge to resolve the daily problems and to improve the functioning of

²⁷ Stipetic (2004) shows a modest increase from 1550 to 1575, followed by a decline. But later values in Figure 4(a) are based on vaguer estimates: he gives only values for all of Dalmatia; we assume earlier proportions – which may be incorrect.



institutions. They knew that internal stability and economic prosperity were the only ways to strengthen the international position of the city'. In the current jargon, it had all three components of good governance: voice, rule-of-law, and ease of doing business.

Voice

Ragusa was by no means a democracy, the government being almost entirely in the hands of a nobility mythically based on the 'original' settler families, although in fact many rich merchants and Balkan princes were often quietly 'ennobled' in turn for the benefits they could bring.²⁸ Commoners had no voting rights, but rich merchants and skilled professionals did comprise a large part of officialdom. Grubisa (2011) exemplifies a consensus that the political regime is best characterized as a benevolent rather than rapacious oligarchy, providing many basic needs of the population to an extent not seen in this period. Upward mobility is often considered evidence of good governance. Vekaric (2011), Krekić (1980), Carter (1972), and others document the shifts of noble lineage, the impoverishment of many noble families, and the rapid growth of wealth of non-noble merchants who were gradually and *volens-nolens* 'absorbed' into the upper classes, the ruling elites, and government officialdom. One indicator is the increase over time in the share of credit issued by commoners. Thus, Krekić (1980) estimates that as early as 1280–1440 this was already one-third; Zlatar (2007, p. 139) shows that this increased to about 42% in the next century.²⁹

Rule of law

More important, justice was apparently meted out not with feudal arbitrariness but on the basis of laws, legislation, and judicial process, as symbolized by very early legal codification in the 'Statut' of 1272. It was not perfect, but numerous instances of well-applied justice in the law in practice dominate the literature.³⁰ Sisak (2011) argues that this rule-based governance gave long-term stability with virtually no significant peasant uprisings as seen frequently elsewhere, and far fewer internecine revolts within the nobility.³¹

²⁸ Vekaric (2011), Vol. 1, shows in Table 7 the roots of the noble families and it is clear that a large proportion were not from Epidaurus.

²⁹ Another striking statistic suggesting upward mobility is in Luetic (1969, p. 101): by the mid-18th century, of 380 registered shipowners only 80 were nobles.

³⁰ Lonza (1997) uses a quantitative review of 2,440 court cases to demonstrate effective implementation. Incidentally, many cases were settled out of court, a practice that authorities encouraged. Lonza (2002) gives further quantification of judicial effectiveness.

³¹ Vekaric (2006) describes a major exception – the short-lived and futile rebellion by Lastovo nobles.



Ease of doing business

Many historians note how favorable institutions promoted economic prosperity. Stipetic (2000) reviews a number of early Ragusean writers with very ‘modern’ views on economic theory. A 1440 work of Filip de Diversis states: ‘among the permanent institutions...first is the one responsible to preserve justice and order among the wholesale and retail merchants, customers, irrespective of whether they are foreigners or citizens’. He goes on (p. 32) to document the pioneering development of accounting and double-entry bookkeeping by the Ragusean Kotruljevic,³² whose 1440 handbook detailed the value of instruments like bills of exchange and letters of credit. In his 1458 treatise ‘Il Libro dell’Arte di Mercantura’ he expounded economic philosophy views that were very radical for the times: interest as the price of capital, and credit being critical to fuel commerce and ‘only’ usurious if excessive (5%–6% was his proposed limit). Even the strong fundamentals hypothesis is found in his work, arguing that the state must ensure an open mercantile and trading environment conducive to making money and creating wealth, with minimal interference in commerce and ensuring prudent state finances. Kotruljevic seems to have presaged by six centuries today’s received wisdom about the rule of law (ROL) and a good business climate.

Stipetic (p.18 ff.) also lists the formalization of institutions, noting that notary and registration procedures, as well as records for business contracts, existed as early as 1200, were enshrined in the 1272 Statut, and further elaborated in the Customs Book of 1297. Implementation did lead to corruption, but Stipetic (2000) points to many mitigating institutions: annual reviews, oversight by auditors and inspectors who were regularly replaced, and hiring only foreigners for some positions. Krekić (1997, pp. 32–35) describes many cases of bribery, but concludes that efforts to curtail it by punishing offenders were generally as effective as can be expected.

In general, most historians agree that the ROL and the ease of doing business went beyond formal laws, with effective implementation. Implementation quality is not easily quantifiable even today, but several supportive illustration can be shown. In a historical period of state rivalry there exist numerous instances of Ragusean authorities enforcing claims by foreigners on the citizens of Ragusa. Bankruptcy of the Paboras in 1315 led to claims by many creditors from Venice and by the well-known Peruzzi bankers of Florence.

³² Stipetic (2000) refers to non-Croatian scholars Postma and van der Helm – presumably less biased – and have found clear evidence that Kotruljevic was the first to develop double-entry bookkeeping, well before the 1496 work of Venetian Lucca Paccioli. A personal communication from van der Helm clarifies that Kotruljevic/Cotrugli did write briefly about double-entry, in his unpublished work, but a first printed manual was indeed that of Paccioli.



Courts ruled in the latter's favor and conveyed Pabora assets to them (Krekić, 1997, p. 13). The Ragusean noble and merchant Bunic, a tax farmer for the Ottomans, became a fugitive from the Sultan in 1471 after alleged embezzlement of 55,000 ducats. The Ragusean courts seized his local assets to cover the claim. Years of litigation followed, with Bunic and the Porte coming to an eventual settlement with encouragement from the Ragusa court.³³

Many other early institutional elements that today would be labeled 'a favorable business and rule-of-law climate' can be pointed out. Luetic (1969, p. 107) and Carter (1972, p. 157) note the beginnings of the first maritime insurance policies in the 14th century, and Doria (1987) notes how elaborate they became by the 16th century. A revealing description of bankruptcy procedures in the 14th–15th century by Palic (2008) further attests to the favorable business climate. He emphasizes that, unlike the 'debtor's prison' practices found elsewhere, 'the ultimate aim of bankruptcy...was not just settling [with the] lender but also...helping the debtor overcome inability of paying...[thus creating] an atmosphere for further co-operation and doing business together'. This further confirms the frequent reference to Ragusean Courts encouraging settlement, surely a wise and effective policy for promoting business. All of the above provides consistent support for HH6, which we might re-label 'The Kotruljevic Hypothesis': Ragusa conducted a policy of good governance, effectively implemented ROL, and provided market-enhancing institutions.

Prudent fiscal and monetary policies

The literature is replete with references to conservative finances, prudence on expenses, and low debt, but virtually no data are shown, with one exception: budget numbers for 1800 reproduced in Bjelovucic (1970).³⁴ There we find, first, evidence of a large budget surplus of about 10% of revenues, consistent with HH7 – the prudence hypothesis. Figure 8 indicates shares of different revenue and expenditure categories that provide further evidence of fiscal prudence.

Reinhart and Rogoff (2009) remind us that the current recession is not that different from historical cases, pointing to the common instance of high debts and defaults in Europe over centuries. In contrast, Ragusa appears to have avoided serious debt problems as strongly implied by interest payments

³³ Bojovic (1998, p. 114) cites numerous similar cases.

³⁴ The 'Bara Bettera Memoirs' on which there is some dispute among specialists today; table in Bjelovucic must have a transcription error as the total exceeds the sum of expense components by 30% (Havrylyshyn and Srzentic, 2012). Note how this could be adjusted to calculate probable proportions.

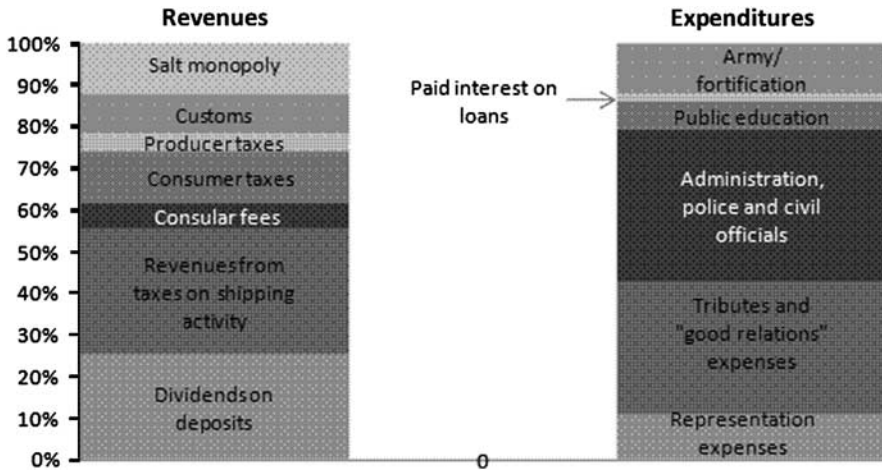


Figure 8: Structure of Ragusa budget *circa* 1800

on loans, which represented only 1.7% of budget expenditures, far below comparable values. Venice at around this time paid out a third to service debt, and more in earlier years (Lane, 1973). Koerner's (1995) analysis of 25 states from 1500 to 1800 concludes that 'service on the debt varied between 17 and 36% of total expenditures'.

Qualitative evidence supports HH7 strongly: one finds no references to defaults, although instances of payment difficulties arose. Krekić (1980) and Sisak (2011) note among the 'social obligations' of nobility 'sharing proportionately in lending to the state and accepting less than full payment when exigencies arise'. Ragusa's net asset position was strongly positive in 1800. Dividends on deposits in Italian and Viennese banks provided 25% of revenues – excluding holdings by individuals! The share of maritime trade in revenues is substantial, with customs revenues of 9.3% and various taxes on shipping, shipbuilding, ship sales, and navigation adding 30.2%. Financial conservatism is further reflected in the double use of consular staff being hired out to others and yielding revenues of 6.3%.

Another indicator of prudence may be the low inflation and limited debasement that many writers note. Most agree with Krekić (1980) that inflation was not high; Stuard (1992, p. 810) writes of 'mild inflation' in the 17th century but much higher in the next. We have not found enough quantitative evidence to confirm the low-inflation consensus, as all such discussions are at best fragmentary and sometimes inconsistent. We were unable to compile inflation or even consistent goods price data; while



inflation estimates in northern Italy might be a good proxy, these are less available than the numbers for Western Europe.³⁵

Banking activity in Ragusa in the 14th and 15th centuries, unlike in the large Italian city states, was at first limited to the Zecca³⁶ (Mint) stamping silver coins and to exchanging currencies. We found no mention of private banks in the historical writings, but it seems that over time the Zecca expanded to limited lending activities with explicit references to its credits to the state, state institutions, and large influential brotherhoods, and with goods collateralization and 8% interest for commercial entities. This resembles the function of public banks in other, much bigger, countries of that period – namely, they relieved the government in bridging intertemporal budget constraints³⁷ by providing access to central bank credit, although we cannot talk about a central bank in the proper sense of the term.

The Zecca probably also served as a bank for rich Balkan princes and merchants wary of unfamiliar Italian banks.³⁸ The activity of Zecca is recorded as early as for the year 1327, and it certainly had a monopoly on creating silver coins, whereas the monopoly over exchanging gold and silver coins dates back to 1683. There were no deposit banks, but the state pawn shop did provide some degree of lending to those with lower income (Bjelovucic, 1970, p. 67). We noted earlier credits issued among private individuals for trading and shipbuilding participation, but these data are too fragmentary to give a clear picture of the nature or magnitude of credit creation; thus, it is not possible to seriously discuss the monetary policy of that time

While the 1800 budget and qualitative evidence consistently support HH7 – the prudence hypothesis – it is reasonable to ask how representative this late data point is. On the one hand, qualitative evidence suggests similar prudence in all earlier periods; further, the fact that well into the period of decline Dubrovnik still had strong finances with unusually low debt servicing and a positive balance of interest earnings certainly implies prudence in the preceding decades, if not centuries. On the other hand, this positive balance could reflect the lack of domestic investment opportunities in a declining economy, and certainly one data point is indeed too little to be conclusive.

³⁵ See Allen–Unger Global Commodity Prices database at Oxford and UBC (www.history.ubc.ca/faculty/unger/ECPdb/about.html).

³⁶ <http://numismatica-italiana.lamoneta.it/> explains the derivation of the word ‘zecca’, which apparently comes from the Arabian word with pronunciation ‘sikka’ = ‘coinage’.

³⁷ Fratianni and Spinelli, 2006 (in *European Review of Economic History*, 10, p. 260).

³⁸ Carter (1972, p. 172) and Kurtovic (2010); a good example of the advantage of the Slavic character of Ragusa.



An enlightened social policy

While self-interest may have been the motive, the Ragusean nobility apparently paid unusually significant attention to the well-being of those who must necessarily be the labor force on ships, shipyards, and trade-related activities. Such ‘fairness’ led to a high degree of social stability according to Sisak (2011, p. 182): ‘the loyalty of the Dubrovnik population to the social order and hierarchical structure of government was atypical compared to other cities in the Adriatic’. Most historians broadly agree with this, while recognizing large disparities in status. Carter (1972, p. 116) gives a more balanced view: ‘the “cittadini” and peasants were ruled with wisdom and without oppression’, ‘[but governors of the territories] governed despotically...Dubrovnik’s ideas of liberty were not only restricted to a limited class, but did not extend a yard beyond the walls’. Leaving aside some uncertainty on ‘just how fair was fair’ in Ragusa, we turn to illustrate the main social welfare measures.

Infrastructure for the populace included street paving as early as the 14th century, as well as providing sanitation, regulations for wooden buildings to minimize fires, wells, aqueducts for water, public fountains, orphanages, and indigent homes. Provision of health care is considered by many as a pioneering high point of Ragusean social fairness. A recent systematic review by Lang and Borovecki (2001) concludes: ‘it is obvious that Dubrovnik had a high level of health and social care’. Frati (2000) details the first regional introduction of quarantine in 1377, as well as other measures such as free pharmacies, hiring top physicians from Italy, sending talented youth to study medicine there and so on. Frati realistically notes that the motivation for quarantine ‘[was] mainly to protect the safety and quality of the commercial network rather than for medical aethopathogenic purposes’, but leaves no place for question: the public spillover benefit was considerable and unique for the time.

Provision of education for all classes in the city – but not rural areas – provides additional evidence of ‘patrician’s enlightened attitude toward talent’, Bjelovucic (1970, p. 62). At least as early as the 16th century, Jesuits were given funds ‘to teach all youth who wish to attend public schools’ and ‘send bright boys overseas to study at government expense’. Figure 8 shows that education expenses were 6.8% of the total, but this is disputed, with some sources giving a value as small as 3.3%. Is this high or low? Unfortunately the Bonney (1995) volume on state finances does not provide comparative values.³⁹

³⁹ The implication may be that other states undertook minimal education expenditures; but this requires future research.



Another important social measure was the maintenance of emergency grain reserves provided to the population at low cost during periods of famine. In the medieval period this was an arguably justifiable intervention. Overall, even without formal tests, the available information is supportive of HH8 – that social policies went far to provide basic needs of the population, especially in comparison to other states.

Minimal military expenditures and maximum diplomacy⁴⁰

Our subtitle refers to the common view that Ragusa, unlike other city states of the region, did not achieve commercial power by use of force, but substituted this with skillful and constant diplomacy. On the face of it, Figure 8 supports this with defense accounting for only 12.2% and diplomatic costs accounting for 43% of the expenditure. In comparison, Bonney (1995) calculates that, for the 13th–17th century, European states' military expenditure was at least 20%, rising to as much as 80% during times of conflict. For Venice in 1763 Lane (1973, p. 426) shows military expenditure to be one-third after a sharp decline from preceding periods. But since the 1800 situation of Ragusa may not be representative of earlier periods, we again rely on other fragmentary data and qualitative judgment.

Minimal use of naval and military force forms the central thesis of Berkovic (2010, p. 220). His assertion that it was 'a small country with no military force' surely overstates the case, but that 'foreign policy and diplomatic skills played a key role in the survival and development of the Dubrovnik Republic' represents a virtually universal consensus among historians. That naval forces were small is shown by many fragmentary estimates of the numbers of warships. Treaty obligations to provide one war galley per 30 Venetian ones imply only 3–4 at the ready.⁴¹ Less specific demands were made under the Hungarian overlordship. Luetic (1969, p. 77) emphasizes 'The Most Modest War Fleet', with vague references to the types of warships for the 17th century from which one can infer a larger number of about 10 – hardly a case of 'no military force' but still small.

Thus, the available evidence points to a modest force that at best provided a minimal deterrent, mitigated the threats of pirates, and allowed Ragusa to meet its treaty obligations – and when not used in war, it served as a diplomatic courier or as an escort for commercial convoys. However, some evidence suggests that this underestimates defense costs. First, several writers emphasize that even the commercial fleet was outfitted to allow swift

⁴⁰ This section is based to a large extent on the comprehensive analyses of Carter (1972) and Berkovic (2010).

⁴¹ Lane (1973) estimates Venice's war fleets at about 100.



modification for cannon and decks for armed sailors/soldiers. Second, the cost of massive fortifications (today's great tourist attraction) must count as defense expenditures; the literature gives virtually no information on this. Third, one might hypothesize that before Ragusa's commercial and intermediation importance was built up enough to make diplomacy a credible option, military actions and costs may have needed to be much larger. Suggestive of this, Carter (1972) mentions several early attacks and sieges besides the Saracen siege of 866–867: In the 14th century at different times Kings of Serbia and of Bosnia are known to have considered capturing Ragusa, but were discouraged by the likely very high cost of breaching the defenses.

Nevertheless, there is reason to conjecture that even these factors would not alter materially the consensus on HH9: available evidence suggests Ragusean military expenditures were small relative to what typified the period.

That diplomacy was a substitute for defense is also broadly accepted in the literature. Figure 8 data certainly support the view, with diplomatic costs amounting to about 42% of expenditures: 11% for consular expenses (although note that fees recouped for services to others yielded 6% of revenues) and nearly one-third, that is, 31.9%, for various tributes, 'good relations', diplomatic travel costs, etc. The focus on diplomacy was both a choice and a necessity. Ragusa was not only very small, but its hinterland was infertile, hilly, narrow, and difficult to defend; hence, diplomacy inevitably became necessary. The relationship between diplomacy and defense is best thought of in a circular causation: early efforts to provide defensive walls and forces were surely needed to discourage attacks and give time for negotiations, but the small size and indefensible territory led to emphasis on diplomacy and neutrality; over time, the increasing success of diplomacy lessened the need for military efforts.

Berkovic (2010, p. 220) again typifies the consensus: 'aware of their geopolitical position...Dubrovnik entered into numerous international political and trade relations [using this] wisely and skillfully in the defense of independence, sovereignty and economic growth, resorting almost exclusively to diplomatic means and diplomatic skill'. A few examples follow.

The 866–867 siege may not have come to a good end were it not for the appeal to the Suzerain, Emperor Basil, who sent a Byzantine fleet to relieve the city. As Venice began to dominate the region, Ragusa often yielded to some informal form of 'submission', accepting Venetian Counts and Archbishops, while still fleeing the Byzantine Imperial standard, and frequently turning diplomatically to Constantinople to offset Venetian pressure. *Circa* 1095, still under formal Byzantine protection, Ragusa turned to their enemy Venice to help ward off the incursions of King Koloman of



Hungary. In 1186, the Normans of Naples and Sicily occupied Ragusa, but negotiated favorable terms: a Norman titular count, but all decisions of government made by the Great Council, no significant tribute required, and all commercial treaties remaining in force. During the Venetian protectorate, which began in 1204, the formal treaty of submission was signed only in 1232, reflecting Venice's limited authority, and was not very onerous while the obligation of Venice to defend Ragusa and the trading privileges accorded were of great value. Significantly, Ragusa was exempted from the prohibition imposed upon other states to import goods into Venice or export to the Levant.

The height of complex many-sided diplomacy and intrigue is exemplified by Ragusa's sobriquet in the late 16th century of 'Le Sette Bandieri' (The Seven Flags): 'Thus by her successful diplomacy Dubrovnik was under the aegis of seven different powers – Spain, the Papacy, The Empire of Naples, Venice, Hungary, the Turks, and the Barbary Deys'. '... although they often were in difficulties with some of their protectors, they could always play one off against the other' (Carter, 1972, p. 333).

CONCLUSIONS AND FUTURE RESEARCH

Ragusa, in the medieval period, is widely considered a unique case of a very small economy that, despite having virtually no agricultural or other resources, by the 14th century was already a prosperous entrepot port for Balkan–Italian trade, and then built on this to become by the 16th century a major commercial maritime power in the eastern Mediterranean, competing successfully with the much larger Venice, especially in Ottoman lands. Historians give many reasons for its success. Location was important initially but of greater weight was how its ruling elite leveraged this with wise policies to promote prosperity. We have compiled the available economic data from secondary sources for the period 1300–1800, complementing it with qualitative judgments by historians along with some fragmentary statistics, and have tested nine common hypotheses in the literature. Table 3 summarizes our findings and, given the data uncertainty, indicates the degree of confidence in the results.

On Ragusa's economic evolution, we find the data consistent with all but one of the five hypotheses, but with some new interpretations that point to future research. Hypothesis HH1 – that peak prosperity came in the 'Golden Years' of the 15th–16th century – is corroborated by data on population, major buildings, fleet size, and tonnage, as well as on a rough GDP estimate. However, shipping tonnage, which is perhaps the best proxy for economic

Table 3: Findings

Historical hypothesis	Consistency of evidence and hypothesis	Explanation for qualifications
HH1: Golden Years of Prosperity (about 1350–1550)	Strongly consistent	The most ample and the most robust dataset
HH2: Silver Period was also very dynamic	Weakly consistent	Only one limited dataset examined
HH3: Carrying capacity below 100,000	Weakly consistent	Only population data examined
HH4: Ragusa fleet equal that of Venice	Consistent only for one period, but not for long-run	Strong data, direct measure of shipping
HH5: Ragusa decline begins (early 16th century)	Mixed result	Data consistent with long-term decline but exact timing unclear
HH6: Laws, institutions favorable to commerce	Weakly consistent	No data examined, only qualitative evidence
HH7: Ragusa had prudent state finances	Strongly consistent for one time point	Only 1800 examined; otherwise only qualitative evidence
HH8: Enlightened social policies	Weakly consistent	Only qualitative evidence so far
HH9: Military expenditures relatively low, diplomacy high	Strongly consistent for one time point	Data on 1800 budget, supported by fragmentary soft data and qualitative evidence

Source: Authors

activity, suggests that the peak came between *circa* 1575 and 1600, as opposed to the earlier date many historians use, namely 1550. Most historians give greatest attention to this period but we argue that Stuard's extensive work suggests that the preceding Silver period was also very dynamic. Further, we offer as HH2 that this period – while still not as prosperous – was perhaps equally dynamic in the sense of economic growth and built up the basis for the Golden Years. Data on major buildings are consistent with such a view, but other indicators are too sparse to consider this a strong result; hence, this is a good theme for future research.

Population reached its peak in 1500, much earlier than other proxies of development – a fact consistent with HH3 that the carrying capacity of this small infertile territory was extremely limited, to well below 100,000. But like the HH2, the test is very limited.

The 'patriotic' hypothesis HH4 – that Ragusa's fleet equaled that of the much larger Venice – should be rejected, even though technically at the peak



the fleets were equal in a very narrow sense. Indeed, in the late 16th century this was literally true, but only for this period and only because Venice had suffered naval defeats decimating its fleet. Across the centuries, the Venetian fleet was certainly larger, albeit not by multiples, as one might expect given their relative size. The inherent pride of this hypothesis can therefore be justified: that Ragusean merchants came even close, were considered by Venetian authorities as its main rivals, and were known to ‘snatch goods from under the eyes of Venetians’ is a testament to great commercial success.

Finally, HH5 posits the consensus that decline came with opening of the Cape of Good Hope route to the east. The quantitative evidence in the long run is consistent with this, but, as already noted, the timing points to a nuanced interpretation. Trading by Portugal *via* the new route began early in the 16th century, followed by the Netherlands and England; yet, Ragusa’s fleet and wealth continued to grow considerably for nearly a century. This hints at the resilience hypothesis – that Ragusean elites and merchants succeeded for a long time in maintaining competitiveness against the overwhelming cost advantage of the new route. But it is too weak and indirect a test to make a firm conclusion – only further research can achieve this.

Four hypotheses on the ‘wise policies’ were addressed; however, given the very partial ‘hard’ data and the need to rely on fragmentary ‘soft’ data plus qualitative judgments by historians, the conclusions are best considered indicative and still conjectural. HH6 – that Ragusa pursued good governance, rule-of-law, and institutions favorable to commerce – was impossible to test quantitatively, but innumerable instances of historians’ arguments lend very strong support. HH7 – that the state conducted prudent and conservative financial policies – is strongly confirmed by the one set of budget data available. Perhaps most striking here is the 1.7% of expenditure for interest on loans, far below the 20% + seen in other states. Unfortunately, no budget data were found for earlier periods, and arguments can be made on both sides on how representative the 1800 budget might be. It is true but not sufficient that the qualitative evidence on earlier centuries shows a nearly universal consensus by historians that Ragusean finances were very conservative and prudent.

That military expenditures were low and instead diplomatic efforts were substantial are complementary hypotheses HH8 and HH9, and available evidence appears consistent with both. Certainly the 1800 budget (Figure 8) shows this, with expenditure shares for diplomacy being four times greater than those for military ones. For earlier years, the evidence is supportive but much weaker, with some soft data on naval fleet size as well as most historical interpretations pointing to the same conclusion. But it is not inconceivable that for very early periods, for example, before 1200, defense



expenditures on walls, vessels, and armed soldiers may have needed to be proportionately larger until Ragusa's wealth and reputation permitted a greater reliance on diplomacy.

Indeed, the last is one of the several general directions for future research. Another general area would be to re-test some of the above hypotheses using primary data from the very rich and underexploited Dubrovnik Archival material on commercial activity. Thus, the budgetary prudence reflected in the 1800 source could be investigated for earlier periods. Of particular relevance for current global issues might be a deeper investigation of the resilience hypothesis, focused on short-term movements of trade, shipping, and budgets around the time of some external shock episodes. Both the recent retrospective of Reinhart and Rogoff and a lot of earlier economic history literature make clear that there were many such episodes that must have affected little Ragusa, like the current global crisis has affected many small 'tiger' economies, be they Celtic, Baltic, or others.

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