

Principles of Economics  
2007-2008 Fall Exam

1. The demand curve for a good is downward sloping. If the price of the good falls, the quantity demanded will increase. This is known as the law of demand.

2. The supply curve for a good is upward sloping. If the price of the good rises, the quantity supplied will increase. This is known as the law of supply.





# A Sable on the Side

by Eric Ching

A flash of curved horns caught our eye, and we quickly spotted the silhouetted shape in the shadows off the right side of the road. The driver rolled the hunting car around the bend before slowing to a stop behind a large termite mound. We quietly got out and I followed my PH on the approach. Peeking around the right side of the mound, we spotted the object of our hunt no more than twenty yards ahead: a Zambian sable with dramatic back-sweeping horns. I'd checked my rifle's zero just five minutes earlier. I had to decide quickly whether to end the hunt right now.

I was a guest of Sable Safaris, a Zambian joint venture between Cheetha Safaris and Bush Africa Safaris of Limpopo Province in South Africa. I'd hunted with Bush Africa Safaris twice before. I was making this trip primarily to accompany four hunters on their first African plains game hunt with Schalk van Heerden, owner and PH, in South Africa, which I'd arranged for them. At my request, Schalk set up this side trip to Zambia to hunt a sable (*Hippotragus niger*) while the others got started on their African adventure, and I would join them later in the week to photograph and videotape their experience.

Over breakfast during my layover at the Johannesburg Airport, Schalk told me that I'd be hunting on the Chaminka Nature Preserve near Lusaka, and that one of his PHs, Eddie Wentzel, would guide me. Primarily a game viewing preserve and conference center, Chaminka allows a limited amount of hunting to keep the game populations under control. Schalk also said that I had a good chance at a 40-inch sable; he'd seen more than one when he scouted the property earlier in the year.

After 40 hours of travel encompassing four countries, three flights, and two layovers, I was immensely grateful to arrive at last at the gates of Chaminka late on a Sunday afternoon. As I sipped a pre-dinner beer in the hilltop lounge overlooking Lake Chitoka - lavishly decorated with shoulder mounts and a wide array of traditional and modern African handicrafts and art, a woman dressed in sweatshirt and jeans approached.

"Hi, I'm Danae," she said, extending her hand. "I live here."

This was my introduction to the Sardanis family, who own Chaminka. Danae's husband, Andrew, and her son also greeted me personally as they each arrived. I learned over the course of the evening that Andrew had been intimately involved in the country's transition from colonial Northern Rhodesia to independent Zambia, and played a significant role in the early government's efforts to develop sustainable industries. Luckily, he wrote a book about his early experiences in Zambia (Africa: The Other Side of the Coin).

After an excellent meal on the dining terrace I headed off to my chalet-aptly-named "Sable" - eager for a long-awaited encounter with a real bull, but not before agreeing to meet Eddie for breakfast at six o'clock in the morning. I was barely able to sketch a few notes in my journal before dropping off to sleep with the calls of lion and hyena drifting over the camp.

A good night's rest and anticipation of the hunt banished my exhaustion from the long, trip I was showered and dressed, and had my gear organized, well before the appointed hour, and over breakfast Eddie laid out the plan for the day. We'd drive to the back part of the property, scouting the game as we went, then stop to check my rifle's zero before hunting our way back to the lodge. Besides the two of us, we also had Chaminka's resident PH and two trackers in the truck. We mounted up as the morning glow gradually pushed back the night sky, and headed out into the dawn of my first day in Zambia.



Eric Ching

Chaminka's property includes a variety of habitats—from reed-fringed lakes to bushveld to grasslands - and supports a wide variety of game. In addition to the animals I was used to seeing in South Africa, Chaminka treated me to my first sights of red lichen grazing along the lake shores - tsesebe watching us warily from tree-covered rocky mounds - Lichtenstein's hartebeest bounding away as we drove by - roan grazing placidly among the trees along the road - a diminutive oribi scuttling away through the high grass - sturdy Defassa waterbuck eyeing us defiantly; dainty puku, one of Zambia's distinctive antelopes - beautifully russet-coloured and white-spotted Chobe bushbuck - and, of course, the magnificent sable. I also saw thatch grass for the first time, the tops of which whisked by above my head as we drove through it, even though I was sitting in the high hunting seat of the truck.

We stopped after driving about half an hour without having seen a bull sable, and the trackers set up a makeshift target on the side of a termite mound about 80 yards away.

Two shots from my Blaser R93 in 9.3x62 with handloads launching 286-grain Nosler Partitions at 2335 fps confirmed that the rifle and scope had survived the rigours of international travel and were still aligned. By now the sun had burned off the morning chill. I shed my jacket, filled my rifle's magazine, chambered a round, cocked the safety, and flipped my mental switch from scouting to hunting as we started off again.

Five minutes later we were peering around the side of the termite mound at a 38-inch sable bull lounging in the shade, completely oblivious to our presence. "Do you want to take him?" Eddie whispered, "He's a nice one." After a moment's reflection, I decided it was just too soon to end the hunt. I had three days ahead of me, and had a good chance at something a bit larger. "I'll pass on this one," I replied, "We've got plenty of time." He nodded in agreement, and we sneaked back behind the termite mound and returned to the truck, the quick encounter creating an air of optimism among the crew.

Of course, any astute hunter should know exactly what happened next: the wind picked up shortly thereafter, causing much of the game to bed down in the thickets the rest of the day, hidden from our searching eyes. You can bet that I was having second thoughts about my morning's decision by the time the sun was setting.

At the end of the day, however, a quick stop at a field near the lodge gave us hope for the morning. The sun had slipped below the horizon and grey shadows were quickly fading into black. To our surprise, there was a small group of sable in the open - and one of them was a bull. There was not enough light to shoot - we could barely make them out with our binoculars - but from what we could see the bull was promising and Eddie said that we'd be back at dawn to see if they were still around. "Don't worry," he assured me, "you'll have your sable within half an hour of sunrise tomorrow." Given our experience throughout the day, I was somewhat sceptical, but still inclined to be optimistic.

Over drinks and dinner that evening, Eddie told me about Sable Safaris' operation at the southern end of the Luangwa Valley in Zambia. They have over a million acres available to them in the form of adjacent government concessions and private holdings. The featured offerings are combination hunts for lion, leopard, and buffalo to complement what Bush Africa Safaris and Cheetah Safaris can offer in South Africa on their home properties.

The next morning Alex, a wildlife veterinarian visiting for the day, joined us in the truck. It was still dark when the attendant rolled the heavy steel gate aside to let us depart. We were all eager to see whether the sable herd would still be in the field where we had left them the night before.

By the time we approached the tree line fringing the field we could see well enough by the pre-dawn half-light, but a heavy ground fog still lumbered over the area, coating everything with a sheen of moisture and muffling all sounds. We slowed to a crawl as we made our way along the trail through the trees, straining our eyes to catch a glimpse of scimitar horns. We emerged at the edge of the field and, to our delight, the sable herd was still there, ghostly figures partially obscured by the drifting fog. Eddie quickly judged the bull through his binoculars as another 38-inches, but he also noticed a solitary bull standing off from the group about 30 yards to our right. "Let's take a look at him," Eddie suggested in a whisper, and I readily agreed.

We slowly reversed the truck back into the trees, drove over to the next trail, and crept our way to the edge of the field again. I already had my support elbow slipped into the Safari Ching Sling and my thumb on the Blaser's cocking lever. As soon as we spotted the lone bull, Eddie threw up his binoculars and after a couple of seconds said, "He's big. Take him."

The bull was a large, dark figure in the morning mist, about 60 yards away, facing us and angling slightly to our left. I snapped the rifle to my shoulder, placed the crosshairs on its chest just inside and above the point of its near shoulder, and touched off the round. At the shot the sable crumpled straight down. I immediately cycled the bolt, but a follow-up shot was unnecessary. The sable picked up its head slowly, making a valiant effort to rise, but a moment later it succumbed to the inevitable.

Everyone in the truck seemed to do a double-take at the one-shot drop, and then grins broke out all around. Almost as if on cue, as we drove into the field, shafts of sunlight shot out from between the trees behind us through the fog as the sun peeked over the horizon. Eddie commented with a grin, "I told you that you'd have your sable within half an hour this morning."

The bull was in obviously good condition with a shiny dark chocolate coat and a heavy body. Alex, the veterinarian, checked its teeth and declared it to be at least nine years old, a fully mature bull. The bull's horn bases were heavy and the mass was carried up most of the way up along the curve. The tips were worn down, reducing their trophy potential but showing that the bull had made good use of them over a long lifetime. It turned out that his horns were also 38 inches long, but I prefer age, mass, and character to slender, pristine length. They were perfect as far as I was concerned.

The bullet had entered just where I'd aimed, leaving a small hole and a splash of blood on the hide. We found no exit wound, and I was excited about the prospect of recovering the bullet for inspection. (Unfortunately

the bullet was lost in the gut pile back at the skinning shed despite repeated requests to find it.) The usual round of handshakes, congratulations, and thanks followed, and then the crew began the process of clearing and posing for the trophy photographs.

Once the photo session was over, we loaded up the sable into the truck and headed back to the lodge. About halfway there we encountered a truck heading toward the lodge and the local PH waved it to a stop. We transferred the sable to the other truck for transport to the skinning area, and headed back out to do some meat hunting for the camp.

The resident PH asked me to shoot a couple of waterbuck cows, a couple of impala, and a warthog if I could. The waterbuck were to feed the small pride of lions that they kept in a separate enclosure near the lodge, and the rest were for the kitchen to feed the guests. I managed to drop two waterbuck cows out of the same herd within a few seconds of each other, and one impala, but we saw no warthog that morning. The 9.3mm Nosler Partitions continued to prove their effectiveness on game with quick kills, mostly dropping them in their tracks.

Thus ended my Zambian quest for a sable. As Eddie and I ate a cold breakfast in the pre-dawn darkness the next morning, Andrew Sardanis appeared unexpectedly to personally send us off, but not before getting us some hot coffee for the road. A few hours later I was flying over Lake Kariba on the way back to South Africa to share my friends' awakening to the joys of African hunting. 🐘

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SINCE 1972

# The .376 Steyr: 300-grain Dangerous Game Loads

By Eric Ching

The venerable .375 H&H is still considered by many sport and professional hunters to be the best cartridge for one-gun, world-wide hunting, and as a safe minimum for dangerous game. It made its reputation with the classic loading for the cartridge: a 300-grain bullet at 2500 feet per second, typically from a 24" barrel.

By comparison, the new .376 Steyr cartridge's heaviest factory loading by Hornady is a 270-grain bullet at just over 2500 feet per second from my Steyr Scout's 18" barrel. In addition, there is no factory loading with a solid bullet, which is desirable for follow-up shots on wounded dangerous game when shots often have to be taken at less than optimal angles.

Thinking ahead to my upcoming African hunt, which will feature my first foray after Cape buffalo, I began to wonder whether an adequate matched set of soft-point and solid 300-grain dangerous game loads for the .376 Steyr cartridge were a possibility.



The 270-gr factory load flanked by 300-gr soft-point (left) and solid (right)

## Initial Research



Standard, Hornady 270-gr factory load

Zimbabwe PH Kevin Robertson authored the definitive book on hunting buffalo, *Nyati: A Guide to Hunting Zimbabwe's Most Dangerous Game, The Southern Buffalo* (Mag-Sat Publications, Harare, Zimbabwe, 1998), and the excellent reference book, *The Perfect Shot: Shot Placement for African Big Game* (Safari Press, Long Beach, CA, 1999).

I was fortunate to be able to meet Mr. Robertson at the Safari Club International Hunters Convention in early 2000, and introduced him to the .376 Steyr cartridge. When I told him about my thoughts regarding a 300-grain load, he said that: 1) bullets for dangerous game should have sectional densities of 0.300 or more for reliable penetration from all angles; and 2) he downloads his .375 H&H to 2400 feet per second with 300-grain bullets to prevent bullet over-expansion, fragmentation, and inadequate penetration.

The Hornady 270-grain bullet's sectional density (.274) falls short of the minimum, whereas its 300-grain round nose soft-point and solid bullets have S.D.s of 0.305. Additionally, the fifth edition of Hornady's reloading manual shows 2500 fps loads for the 300-grain bullets with two powders, IMR 4895 and Hodgdon BL-C2, albeit out of a 25.5" test barrel. Nevertheless, they offer the potential of reaching an adequate velocity in the Scout's 18" barrel.

Robertson stated in a subsequent e-mail to me that if I could get 2800 fps at the muzzle with good 300-grain bullets, it would be "absolutely adequate" for use on buffalo. Emboldened by his encouragement, I proceeded with load development.

My first attempt with reloading once-fired factory brass resulted in case head separations on every case. I e-mailed Hornady for technical assistance and got back a forwarded reply from Steve Hornady. He said that early runs of .378 Steyr ammo had excessive headspace, causing the separations. He also said that new unprimed cases would be available in the spring or summer of 2001, so I postponed further testing until I could get new brass.

When they were finally available in late spring of 2001, I made up 60, 62, and 64-grain loads of BL-C2 (maximum indicated load was 64.1 grains), and 57, 59, and 61-grain loads of 4895 (61.5 grains was the maximum load shown). The rounds were loaded to 3.083" COL, as specified in the Hornady manual, and ignited by Federal No. 210 large-rifle primers.

## At the Range

I went to the range on a near-windless and sunny day with temperatures in the high 70s. Besides wearing a RAST shield, I placed a sandbag between my shoulder and the Scout's butt pad to minimize any tendency to flinch. The rifle was solidly rested on sandbags fore and aft, and aimed through the sky screens of a CED Millennium chronograph about 15 feet downrange. I inserted the rounds singly through the ejection port nose first, seated them into the magazine, and fed them into the chamber from the magazine with no problems.

Recoil was stout, as expected, but muzzle jump was surprisingly unremarkable. I had no extraction problems, and pressure signs were normal, with flattened primers but no smearing at the edges or cratering around the firing pin.

About one minute separated the shots in the seven-round string for each powder, and about ten minutes elapsed between the two strings.

## Round One Results

.378 Steyr Scout, 300-grain Hornady RNSP

| POWDER                             | HODGDON<br>BL-C2 |      |       | IMR<br>4895 |      |       |
|------------------------------------|------------------|------|-------|-------------|------|-------|
|                                    | 60               | 62   | 64    | 57          | 59   | 61    |
| LOAD<br>(GRAINS)                   | 60               | 62   | 64    | 57          | 59   | 61    |
| AVE.<br>VELOCITY<br>(FT/SEC)       | 2110             | 2156 | 2278  | 2068        | 2204 | 2288  |
| GROUP<br>SIZE (INCHES<br>@ 50 YDS) | -                | -    | 1.25" | -           | -    | .813" |

The top BL-C2 load was already within one-tenth grain of maximum and only reached an average of 2278 fps. The powder also didn't group as well as IMR 4895 so I decided not to test it further.

.812" group. With a half-grain more powder to play with I thought there was a good chance of reliably achieving 2300 fps with 4895.

## Round Two Results

For the second round I tested loads of 61.2, 61.4, and 61.5 grains of IMR 4895. As before, all were made up in brand new unfired brass using the same components and overall cartridge length.

### **.376 Steyr Scout, 300-gr Hornady RN5P**

| <b>POWDER</b>                               | <b>IMR<br/>4895</b> |       |       |
|---|---------------------|-------|-------|
| <b>LOAD<br/>(GRAINS)</b>                    | 61.2                | 61.4  | 61.5  |
| <b>AVE.<br/>VELOCITY<br/>(FT/SEC)</b>       | 2287                | 2304  | 2330  |
| <b>GROUP<br/>SIZE (INCHES<br/>@ 50 YDS)</b> | .875"               | .250" | 1.75" |

As it turned out, 61.4 grains was the magic number, averaging 2304 fps and producing a spectacular 0.25" three-round cloverleaf one inch above point of aim. The higher and lower loads exhibited vertical stringing and much larger group sizes.

## Final Round Results

Finally, I also tested the Hornady 300-grain Encapsulated Solid RN bullet with the same powder charge, and extended the range with both bullets to 100 yards for final group measurements.

### **.376 Steyr Scout, 61.4 grains IMR 4895**

| <b>BULLET<br/>(HORNADY)</b>                     | <b>300-gr RNSP<br/>B.C. = 30 .250</b> | <b>300-gr RN SOLID<br/>B.C. = 30 .275</b> |
|---|---------------------------------------|---|
| <b>AVE.<br/>VELOCITY<br/>(FT/SEC)</b>           | 2325                                  | 2302                                      |
| <b>GROUP SIZE<br/>(INCHES @<br/>100 YDS)</b>    | 1.375"                                | 1.375"                                    |
| <b>VERTICAL<br/>POI FROM<br/>POA (INCHES)</b>   | HIGH 1.375"                           | 0"  |
| <b>HORIZONTAL<br/>POI FROM<br/>POA (INCHES)</b> | RIGHT 0.5"                            | 0"  |

At the ranges I'd expect to use these loads (close!) the points of impact for the two bullets are sufficiently close for field work. Better yet, they shoot close enough to the Hornady factory 270-grain loads (a 1.25" group 2.5" above point of aim at 100 yards) with the same scope setting to make adjustments unnecessary when switching among them.

## Discussion

The terminal ballistics of these 300-grain loads should be somewhere between the 9.3x62 and the .375 H&H, both of which have a long-standing reputation for effectiveness on dangerous game. They are probably comparable to the 9.3x74R and .375 Flanged Magnum rimmed cartridges, also proven performers in the field. The moderate velocities of these loads should also mean that the Hornady soft point and solid bullets, even though not "premium" fare, will hold together and penetrate well.

The .376 Steyr cartridge offers the added advantage of making this performance available to handloaders in the short, relatively light, and very handy Steyr Scout (unfortunately discontinued by Steyr, but a few are still available through G&S, Inc.) The cartridge is currently available only in the more traditional Steyr S&S Pro-Hunter, which is a bit longer and heavier but with similar ergonomics.

If I ever hunt Alaskan brown bears, the Steyr Scout with these loads should be an easy-toting and adequately powerful combination for that purpose. I may or may not decide to try them myself on buffalo next year; a lot will depend on whether my PH supports the experiment and is comfortable backing me up. I will definitely, however, see how they do on stand, the largest of African antelopes, which can weigh up to 2000 pounds.

For those with a .376 Scout or Pro-Hunter looking for a step up from the factory 270-grain load, these 300-grain loads should deliver an additional and welcome measure of terminal performance. The ability to use an expanding soft point for the first shot and have deep-penetrating solids for follow-up shots is also a decided plus when hunting dangerous game.

[NOTE: These loads appeared to be safe in my rifle. As with all handloads, start at least 10% below the minimum loads shown and work up carefully in your own rifle.]



*Slingster*

